

# NEW VENTURES IN BROADCASTING

*A Study in  
Adult Education*



THE BRITISH BROADCASTING CORPORATION

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1928

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PLAISTOW

'IT WAS SAID OF SOCRATES THAT HE BROUGHT PHILOSOPHY DOWN FROM HEAVEN, TO INHABIT AMONG MEN; AND I SHALL BE AMBITIOUS TO HAVE IT SAID OF ME THAT I HAVE BROUGHT PHILOSOPHY OUT OF CLOSETS AND LIBRARIES, SCHOOLS AND COLLEGES, TO DWELL IN CLUBS AND ASSEMBLIES, AT TEA-TABLES AND COFFEE-HOUSES.'

(ADDISON, 'THE SPECTATOR', NO. X)



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MR. C. O. G. DOUIE *attended with a watching brief on behalf of the Board of Education, and on relinquishing his appointment his place was taken by*

MR. G. G. WILLIAMS, *Secretary, Adult Education Committee, Board of Education*

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## PREFACE

BY SIR HENRY HADOW

ONE afternoon in February 1920 a Committee, assembled in the rooms of the Royal Society, was adjourned by its Chairman in order that the members might witness 'a rather interesting experiment' which was to be tried in an adjoining lecture theatre. There they heard from two small bits of apparatus a programme of songs, pianoforte pieces, addresses and bursts of applause, emanating as it appeared from a studio in Chelmsford, thirty miles away. The unscientific member of the Committee listened in bewildered astonishment which was not alleviated when the experimenter said musingly, 'I am afraid that the sound is harsh; Chelmsford is much too near, we should get a better reception from Paris.'

That was eight years ago. Since then, the wonder of broadcasting has become so familiar that it has almost ceased to be a wonder. Transmission from Paris is now commonplace; we are reaching to New York and Sydney, and the compass of the encircled globe. No one can estimate the full power of this weapon which science has placed in the hands of civilization. It is on the due control and direction of this power that the civilization of the future will largely depend.

With many of the uses of broadcasting we are not here concerned. They are too obvious and too prevalent to need mention. Our task is restricted to the single, but very important problem of utilizing it for adult education; of bringing knowledge and interest to those who have passed their period of formal training and have gained from it the best gift that it can bestow, the desire for enhanced interest and for wider knowledge. We are in full sympathy with the use of broadcasting as entertainment—as 'taking tired people to the islands of the Blest', but it has also other functions, and with one of these our present Report is occupied.

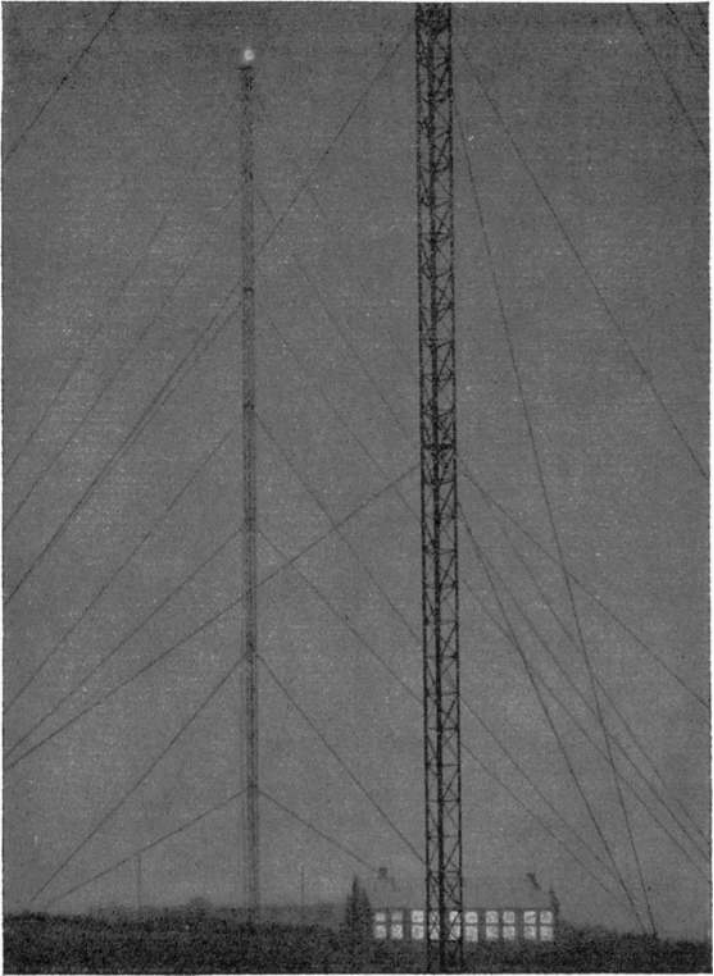
Our inquiry was set on foot by the joint action of the B.B.C. and the British Institute of Adult Education, and was suggested by the findings of the Crawford Committee, before which both these bodies gave evidence. The results presented in this book are submitted by the signatories in the first instance to the Governors of the Corporation and to the General Committee of the British Institute; but, in the belief that our findings will interest a wider audience, they are submitted also to the general public.

Those of us who are specially engaged in education cannot refrain from giving our testimony to the encouragement which, both under the old régime and under the new, the B.B.C. has accorded to educational work; not only directly in its programmes and lectures, but by raising the standard of judgement and appreciation throughout the country. It is not too much to say that the possibilities of our harvest depend largely on the seed which has been sown by their wise and far-sighted policy.

In carrying out our work we have been greatly aided by the witnesses who have placed at our disposal their wide stores of knowledge and experience. Not less than to them is our gratitude due to our Secretaries, Miss Hilda Matheson and Professor T. H. Searls, as well as to Miss F. M. Graves and Miss E. H. Barry whose assistance in the preparation of this Report has been invaluable.

*March, 1928*





DAVENTRY

## INTRODUCTION

IN the fifteenth century, when the embers of Greek culture were borne by wandering scholars through Europe to light anew the imaginations of men, the invention of the printing-press came to the aid of the new learning. Again in the last hundred years new knowledge has revolutionized life and thought, and the universities, awakened to new needs, are sending out their teachers beyond their own walls. It may be that broadcasting will help this modern revival of learning as the printing-press helped the Renaissance in an earlier age.

Broadcasting for most people stands for entertainment and recreation. The possession of a wireless set may mean opportunities to hear news, music, variety entertainments, and plays, or a chance to work at an interesting scientific hobby. But the experience of the past five years has shown that broadcasting can mean something more than this. For instance, the broadcasting of religious services, of weather forecasts, of gale warnings to ships and fishermen, the S.O.S. appeals broadcast in cases of urgent need, the farmers' news and market prices, are some of the ways in which broadcasting has not only been of direct service to the individual, and begun to take a definite place in everyday life, but has also brought many into contact with hitherto unfamiliar facts. For some, the claims of work and personal circumstances have narrowed the range of interest and experience; for large numbers of people, sightseeing even in England is not easy, and foreign travel is out of the question. The number of people who can actually be present on some great occasion must be comparatively small. Few can ever attend a New Year's Eve service at York Minster, the Promenade Concerts, or the Boat Race. But broadcasting brings these things to millions of listeners. All Britain could hear the service at the Menin Gate of Ypres. The Dominions can listen to speech uttered in England or to the song of an English nightingale. And the time is not far off when we may be able to listen to

the sounds of the Indian jungle at dawn while the rain beats upon our windows.

Adult education is perhaps a forbidding term to many people. Yet it means in essence no more than this—the widening of experience and the cultivation of new interests. The listener may hear a Spanish crowd cheering a British football team visiting Madrid. As a result, he may want to know something about the people to whose voices he has just been listening—what they think, and how they do things. Through broadcast talks, and through the international exchange of broadcast programmes, he may get an insight into Spanish life and thought; may learn the Spanish language; may listen to broadcast Spanish music; in fact, he may do all but go to Spain himself.

This is adult education in the widest sense. It may come to have a more specialized meaning directly the individual sets out deliberately to develop his range of interests and the character of his thought. There will then open out before him possibilities of intellectual activity which will help him to make more of his life, both as an individual and as a member of society. For him, the general broadcast programme of music, talks, dramatic performances and news, may be supplemented through broadcast lectures and discussion groups, and by a further study of the subject or subjects which interest him.

Wireless can no longer be regarded merely as a new toy, a game of knobs and gadgets in which the winner is he who gets the largest number of distant stations, or as a cheap way of hearing news and music. It is now bound up with the daily life of the community. There remains the problem, necessarily a difficult one in view of the variety of interests concerned, of adapting broadcasting to the greatest possible number of uses. It is clear that education in the widest sense must have a very strong claim upon it.

This book represents the results of an inquiry, spread over eighteen months, into the ways in which broadcasting may, in this sense, be made of greater use to a greater number of people.

## CHAPTER I

# THE GROWTH OF BROADCASTING

BROADCASTING in this and other countries has become so familiar that it is sometimes taken for granted. For the first time in the history of the world millions of people, scattered over a whole country, or, indeed, over a large part of the globe, may listen to the same voice at the same moment of time without leaving their own homes. The educational possibilities of such an instrument are almost incalculable. Even if no single item labelled educational ever appeared in the programmes, broadcasting would still be a great educational influence.

The distinctive feature of broadcasting is its power of attracting the interest of a vast public and at the same time of entering into the daily life of every individual listener. Through no other medium is there the same possibility of stimulating new interests among so many and so great a variety of people. It is the easiest and least costly means of spreading knowledge. Unlike the lecturer, it can be everywhere at once. It is the perfect method by which to conduct what has been described as 'insidious education'.

Wireless telephony first became practicable shortly before the outbreak of the Great War, which put a stop for four years to its development in Europe as a means of public entertainment. It was not until February 1920 that the Chelmsford station of the Marconi Company was able to broadcast two half-hour programmes a day of news, songs, and music. In March of the following year Writtle station, belonging to the same Company, began short informal evening programmes by amateurs, and in the autumn of 1922, transmissions were also made from Marconi House, London, and occasionally from Manchester and Birmingham. In December

B

1922 the British Broadcasting Company was formed, under the Chairmanship of Lord Gainford, with Mr. J. C. W. Reith as Managing Director, the capital being subscribed by manufacturers of wireless apparatus.

When the B.B.C. took over the service, they found that it had already been decided to erect eight main stations. Experience showed, after this programme had been completed, that about fifty per cent. of the population lived within what is known as a 'B service area', that is to say, an area in which a listener could be guaranteed reception on a cheap and simple apparatus with a good outdoor aerial, though he might in exceptional cases be subject to slight electrical interference from nearby sources. Eleven relay stations were then added, which brought seventy-five per cent. of the population within a 'B service area', though they catered for the urban rather than for the country districts. The erection of the Daventry long-wave high-power station brought eighty per cent. of persons within a 'B service area' of some one programme.

The British Broadcasting Company was licensed in the first instance for two years, but this was subsequently extended for another two years. In the course of these years two committees were appointed by the Government to report and advise on future development—one under the Chairmanship of Sir Frederick Sykes and the other under Lord Crawford. Eventually, in January 1927, on the recommendations of the Crawford Committee, the old B.B.C. was re-constituted by Royal Charter as a public Corporation with five Governors, with Lord Clarendon as Chairman, and Sir J. C. W. Reith as Director-General. The old shareholders were paid out at par, the entire staff was taken over, and it was made clear that the change was one, not of policy, but of constitution and status.

From the beginning the old Company had taken the view that its work was essentially a public service. Its aim had been to bring wireless programmes, and as far as possible a choice of programmes, within the reach of the maximum number of



listeners with cheap and simple apparatus. This was their object in setting up relay stations which would secure reception, by those unable to afford powerful receiving sets, of main-station programmes at satisfactory strength. This aim still governs the present and future development of the Corporation, and it is interesting to note that it is a policy which is being adopted by the main European countries. The rapid growth in the number of licences would seem to show that the policy has been a sound one. In September 1923, there were less than 160,000 licences. There are now, in 1928, over two and a quarter million, which means that listeners probably number ten to twelve million.

The rapid increase in the number of European broadcasting stations led to serious jamming and interference, which it was realized was bound to become worse unless some kind of order were established in the ether. For these and other reasons the B.B.C. took the lead in promoting the formation of an International Bureau at Geneva, on which seventeen countries are now represented, and of which Admiral Carpendale of the B.B.C. was elected President. One of its most important functions has been to arrive at a friendly agreement on the allocation of wave-lengths. Nine wave-lengths between 200 and 600 metres have been allocated for the exclusive use of Great Britain and Northern Ireland, together with the exclusive use of one long wave-length of 1,600 metres; in addition, the B.B.C. is free to use certain common wave-lengths shared with stations in other parts of Europe, where mutual interference ought not to prove serious. These latter wave-lengths were intended for low-power use only, and to give satisfactory service within a very small radius.

In planning the use of these ten wave-lengths, the B.B.C. is aiming at the provision of alternative programmes, at a satisfactory service standard, for the largest possible number of listeners on cheap and simple sets throughout the British Isles. The method by which they propose to achieve their purpose is known as the Regional Scheme.

The object of the Regional Scheme is to make the best

possible use of the wave-lengths available. As at present contemplated, it involves the building of a few high-power stations, to take the place of the present system of many low-power stations. These stations will be placed in such positions as to cover most efficiently the area of the United Kingdom; in addition, there will be a station for Northern Ireland. This would account for the nine shorter wave-lengths allotted to this country, and in addition would leave untouched the Daventry high-power station and the common wave-lengths, which would still be able to supplement, as far as might be required, the big Regional Stations.

From the beginning, the British Broadcasting Company realized that education, in both the wider and the narrower sense, must be one of their functions, and at the outset 'talks' were introduced into the programmes. Some of these were of topical or journalistic interest; others were definitely designed to stimulate thought on special subjects. In the early days, the emphasis was placed chiefly on scientific subjects, since it was assumed that the greater number of listeners who had then taken up wireless were primarily interested in science. Eminent scientists like Sir Oliver Lodge and Sir William Bragg were among the earliest broadcast speakers. Efforts were also made to secure the co-operation of educational experts and of the Education Authorities. At the beginning of 1923, when stations were being opened in different parts of the country, Advisory Committees were formed, and soon after the opening of each station, the educational position and the Company's views and ideals were put before these bodies. The first Committee was formed in London, but at each station in turn similar Committees were gradually established, including in most cases the local Directors or Secretaries of Education, representatives of the Universities, and representative schoolmasters and schoolmistresses, nominated by the appropriate professional bodies. The Board of Education was also asked to take some interest in the work, and nominated one of H.M. Inspectors to attend meetings of the Advisory Committee in London. It soon became



**SIR OLIVER LODGE BROADCASTING**

evident that the educational work of the Company must be placed under the care of a particular official at Headquarters, and the Managing Director, after interviewing the then President of the Board of Education, secured the full-time services of Mr. J. C. Stobart, the Board's representative referred to above, who was first seconded for a year and afterwards joined the permanent staff of the B.B.C. as Education Director.

As a result of these steps, there was a steady growth in the amount and efficiency of the work undertaken. In 1923, the ordinary evening programmes included two talks simultaneously broadcast to all stations, each lasting ten to twelve minutes. But there was no regular syllabus; talks were fitted into the programme as occasion offered. The summer of 1924 saw the beginning of organized experiments with schools. These were made in conjunction with the Education Advisory Committees at each centre. In September 1924, an organized attempt was made to use broadcasting for the purpose of education in the evening programmes. The B.B.C. Education Director had a conference with the Adult Education Committee at the Board of Education, and subsequently with the British Institute of Adult Education. Carrying out suggestions made at these meetings, a regular programme of talks was arranged for the autumn and issued in a printed syllabus for the session from October to Christmas 1924. This programme included talks like those by Sir Halford Mackinder on the Commonwealth of Nations; by Sir William Bragg on Sound; Travel Talks by Mr. Hilaire Belloc; and illustrated series of talks on Folk-Songs and Dances by the English Folk-Song and Dance Society. There were also talks on public affairs arranged in connexion with Government departments, such as the Ministry of Health, the Ministry of Agriculture, etc. There was a certain amount of opposition, but there was evidence also of a steady and growing interest in the talks, and the circulation of the printed Programme advanced by leaps and bounds to approximately 20,000 copies.

At Easter 1927, talks other than those of a definitely educational kind were placed under the care of a separate department; and, subsequently, a new officer and an assistant were appointed, under the Director of Education, to develop an Adult Education Section. Series of twenty-minute talks have been arranged on five evenings a week at 7.25 p.m. as well as a weekly afternoon series, mainly designed for Women's Institutes, and one weekly half-hour period at 8 p.m. on Daventry only. The spoken word of the lecturer is supplemented by printed 'Aids to Study' pamphlets, containing detailed notes and guidance to suitable books, and the circulation of the Programme has grown to 60,000.

There has been much encouraging evidence of the success of these series. A Commercial Evening Institute has reported 'that the experiments conducted by us in connexion with your broadcasting talks in French and German have been highly successful in every way. As one of our students expressed it: "The lessons could not be better for me. Everything necessary seems to be explained very clearly. The book is not too difficult, and is interesting enough to encourage the study of the language."' A listener in the country wrote of these same courses: 'I have been studying German privately for a year, and yours is the only help I have received, so you will understand my sense of deep obligation.' A Trade Union official, welcoming a course on 'Europe through the Ages', expressed the view that 'The angle from which the subject was approached was extremely good, and lifted the talk right out of the dry-as-dust lecture class. The speaker is to be congratulated on having got his personality across.' Interesting evidence of appreciation came from the National Federation of Women's Institutes at their Annual Meeting in the Queen's Hall, London, last May, where delegates from all over England and Wales voted unanimously for the continuance of the special afternoon talks. It is so difficult to get an expression of opinion from those who listen to talks, that this vote cast by over 2,000 representatives of country women is of special interest and significance.

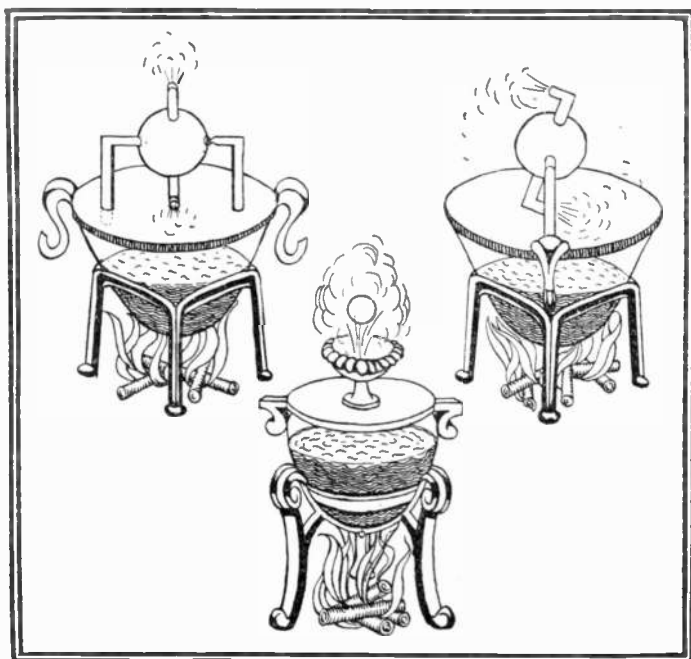
Although this development of systematic short courses of lectures, with supplementary pamphlets, has formed the most serious adult educational effort of the B.B.C., it is important to emphasize the educative value of the general talks arranged by the Talks Department. The weekly critical talks on books, plays, films and music, the travel and literary talks, the talks by experts on current affairs, and on behalf of various public departments, all presented from a non-partisan point of view, undoubtedly help to educate a public hitherto untouched by ordinary educational agencies. Although in this inquiry the systematic work may appear to bulk more largely than the informal, it is undoubtedly in its influence on the general listener that broadcasting is doing its most valuable pioneer work.

From the beginning the B.B.C. realized that the value and interest of many talks and lectures might be greatly increased by supplying illustrations, just as libretti were supplied for their operas. At first the *Radio Times* was used for illustrations of the talks, but difficulties of space and of accurate reproduction in a journal with a very large popular circulation made this difficult to pursue. As far back as 1924, sets of postcards supplied by the National Gallery and the National History Museum were offered for sale in connexion with talks on pictures and animals. Later, the Talks Programme was extended more and more, so as to include a detailed synopsis of the talks and short bibliographies. The development of regular follow-up pamphlets began in connexion with the series of afternoon broadcast talks for schools, and has only recently been extended to the adult education programme. The response has been surprising. Taking the school pamphlets and Aids to Study pamphlets together, about a quarter of a million were disposed of to listeners for the autumn session of 1927.

From the first, also, there was a very considerable bulk of correspondence in connexion with those talks which attracted the greatest amount of popular interest, and it became necessary to make arrangements with each lecturer for the conduct of such correspondence. In some cases the lecturer was able to deal with it himself, and in others he gave

general instructions to the B.B.C. staff to enable them to handle routine inquiries. It has often been possible, when time permits, as in the case of the Daventry half-hour talks, to deal with selected letters at the microphone.

Side by side with the development of education broadcasting in this country, have been the experiments conducted along similar lines in other countries. It is noteworthy that the same desire for education has made itself felt in



HERO OF ALEXANDRIA'S STEAM ENGINES  
(ABOUT 120 B.C.)

Showing how steam from a cauldron could be driven through a tube.  
(a) To cause a hollow ball to revolve on a pivot. (b) To raise a ball in the air.

*Illustration from a pamphlet used in connexion with a series of talks on 'Europe Throughout the Ages' by Norman Baynes, Eileen Power, and D. C. Somervell.*

broadcasting throughout the world, and that educational features find a place in the programmes of every country.<sup>1</sup>

It is as yet impossible to estimate what may be the educational effects of broadcasting in its widest sense. All the available evidence goes to prove that its effect is considerable on the population as a whole, in particular on the rural population. But the field is so vast, the experiment so new, that figures and tables are obviously unobtainable. The following three incidents, slight as they are, are nevertheless significant.

Last spring four boys from a small country town presented themselves for a scholarship examination at a particular college in one of the older universities. They had taken this step and chosen this college because they and their friends had been listening to a set of broadcast talks by a member of the college staff and wished to learn more of the same subject under the same teacher.

A member of our committee was talking recently to a small farmer in a remote agricultural county. 'There's one thing I've noticed since this wireless came in,' he said; 'the talk in the bars and round the fires of an evening is about such different things from what they used to talk about.'

Some months ago, when one of the London thoroughfares was undergoing one of its periodic re-pavings, a man was walking one evening past a dump of tools and wood blocks, and noticed a night watchman sitting in his shelter over the usual bucket of red coke. He observed to his surprise that the watchman was wearing headphones, and stopped to speak to him. The listener put up his hand to enjoin silence, and said firmly, 'Ssh! I'm listening to Desmond MacCarthy.'

<sup>1</sup> A short summary of foreign educational broadcasting experiments will be found in Appendix B.

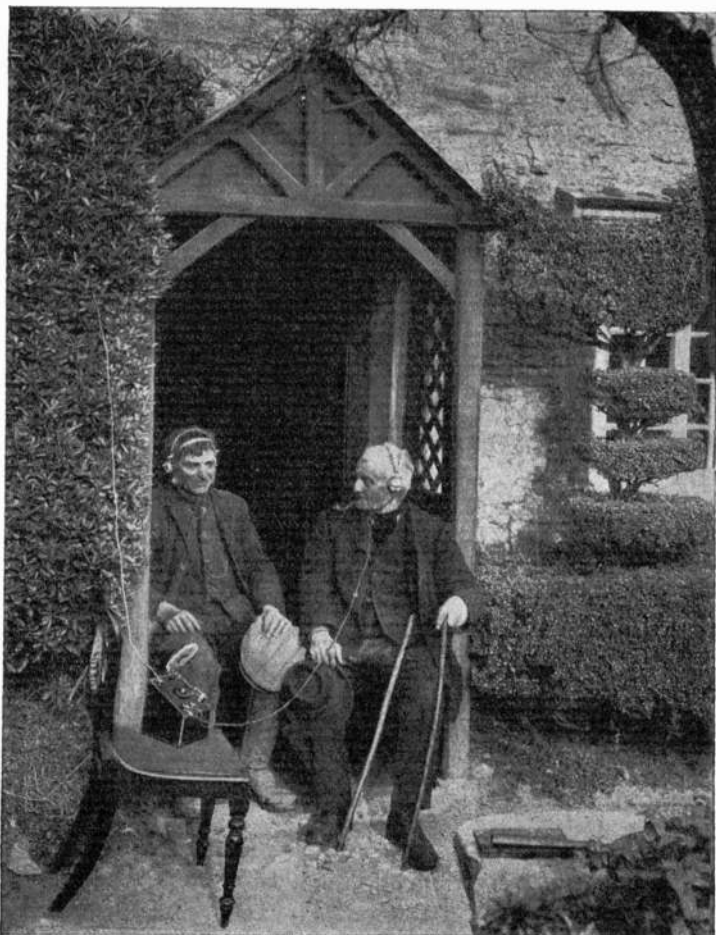


## CHAPTER II

## THE LISTENING PUBLIC

THE audience of listeners is so large, so indefinite, and so incalculable that in some ways it almost defies classification. Any attempt, moreover, to separate people into rigid categories must always lead to artificial results. But the main divisions in the audience may be suggested by asking the following questions: How many, and what kind of, people listen to talks? What proportion of listeners switch off as soon as a talk is announced? To which section or sections of the audience will a system of serious broadcast education appeal? How far is it possible to gauge the demand of special groups for special subjects and types of talks?

The so-called general listener has been the most difficult person to identify in this inquiry. If some of those who claim to know all about him may be believed, he is a strangely perverse person who dislikes everything sometimes, and some things—including education—all the time. It is more likely that the general listener is the usual busy man or woman looking for recreation without any particular label. Only one thing stands out clearly. The general listener in this sense is unlikely to remain constant to any single item of the programme. His interest will be held or lost largely by the voice and personality of the speaker, no matter what the subject may be. This inquiry has tended to show, however, that a much larger proportion of listeners than is commonly supposed have, in reality, particular interests, to which special items in the broadcast programmes make an appeal. There is evidence of this in the fact that the whole standard of criticism of the programmes has changed since the beginning of broadcasting, and that the terms 'highbrow' and 'lowbrow', as applied to programme items, are changing their meaning from year to year.



AFTER THE DAY'S WORK

Assuming, then, that the majority of listeners have particular interests, it may be taken for granted that education, in any real sense, must start from those interests. Any attempt to survey the prospective field of broadcast education must be based, therefore, on an analysis of interest.

Most people come together in large numbers in connexion with churches, political organizations, trade unions and professional associations, co-operative societies, and in clubs for different forms of sport and recreation. In addition, they have their own interest in their family, village, town and nation, as well as in other communities in which they may temporarily find themselves, as, for example, patients in hospital or offenders in prison. All of these relationships create educational needs, conscious or unconscious; the more real and the more intense the interest, the more conscious the need. This is almost the same thing as saying: the closer the bond created between large numbers of people by certain kinds of common interest, the greater will be the conscious demand for education, and the more they are thrown together in communities, the greater will be the opportunity for it.

Broadcast education, therefore, while appealing to the more general, more diffused interests, can address itself also to those particular interests which mark off sections of the public into particular groupings.

The Workers' Educational Association<sup>1</sup> stated the case in a memorandum prepared for this inquiry:

'Whilst the B.B.C. is probably under the obligation to provide for the needs, recreational and educational, of listeners as individual licence holders, it should not be forgotten that the experience of the voluntary educational bodies is that a large proportion of students get their inspiration for study from religious or politico-economic associations, and desire education for the value it has in those connexions. What weight should be given to this in broadcasting it is somewhat difficult to say, but it has to be taken into consideration by individual tutors in classes, and it may necessitate the preparation of broadcast schemes in certain subjects with group interests in

<sup>1</sup> See page 22.

view. This does not mean that we think the subjects should be distorted to suit particular interests, but rather that they should be treated as having relation to realities which various combinations of people are seeking to face and understand.'

The difference, from the point of view of this inquiry, between the undifferentiated public and the sections of the community marked off by special interests is that, in the one case, needs are unconscious and unexpressed, while in the second case they are both conscious and articulate. In marked contrast to the difficulty of discovering the needs of the so-called general listener is the intense keenness and the willingness to co-operate in every possible way shown by those who gave evidence on behalf of particular associations. The extent of the possible demand from organized working-class bodies alone may be gauged from the following statement by the Tutors' Association:

'The post-war period has been marked by a rapid growth of interest in educational activity on the part of the larger working-class organizations. In 1925, the Trades Union Congress, at its annual conference at Scarborough, adopted a comprehensive educational scheme to cover the four and a half million wage-earners in its affiliated unions. Moreover, unions numbering in their total membership over two million workers have, on their own initiative, adopted schemes with working-class educational bodies. The Working Men's Club and Institute Union, to which are affiliated over 2,500 clubs with a membership of approximately one million, has recently made special arrangements with the Workers' Educational Association for the development of educational work amongst its members. The Co-operative Union, a federation of over 1,300 local societies with a membership which well exceeds five million persons, have just entered into a similar arrangement. The great majority of these local co-operative societies have set up their own education committees, to which is allocated the expenditure of a certain percentage of their profits for educational purposes. It is unnecessary to mention in detail other organizations, but the facts we have mentioned seem to show that the membership of these organizations covers a large proportion of the adult population, that there is, therefore, justification in allotting a reasonable amount of the broadcast time to meet the educational needs which they themselves express,

and that the resources of these bodies are frequently such as to allow for the provision of the necessary wireless receiving equipment.'

Interesting evidence to the same effect has been received from the Co-operative Union, as well as from several other bodies of various types.

Further, all the representatives of those national organizations which exist to advance particular social aims, not necessarily educational in their character, were unanimous in the opinion that there existed amongst their members a very real need for the kind of educational work that could be done through broadcasting. In one instance, that of the Y.M.C.A., the mere suggestion that the B.B.C. might be prepared to carry out experiments last autumn brought immediately a number of definite offers of co-operation from local centres. All this points to the conclusion that, by making a direct appeal to organized social interests, the B.B.C. would go far to meet, in the most effective way possible, the collective needs of the wider audience.

When we consider occupational groupings, it is clear that certain specialized interests are sufficiently large and of sufficient national importance to justify the inclusion in the education programmes of items which would be of special value to them. This would apply, for instance, to teachers, farmers and other rural workers, workers in certain other large industries such as mining, etc. Broadcasts designed for these sections of the audience might seem to have a narrow or technical interest, but given adequate programme time, their inclusion would be justified by their effect not only on the particular interests concerned, but also on the community as a whole. Farmers, for instance, are by the nature of their occupation often cut off from chances of getting information which would be of interest and value to them, and, if it contributed to the greater efficiency of agriculture and rural life, of value also to the nation. The same kind of argument applies to the needs of the clergy, teachers, doctors and members of other professions, many of whom are carrying on their work

in isolated places. 'Refresher' courses by wireless might bring new interest and encouragement to them, with corresponding benefit to those committed to their care. The following statement was submitted by the Miners' Welfare Committee:

'It occurs to the Committee that as many of the Miners' Welfare Institutes now established throughout the country are probably equipped with wireless receiving sets, there is considerable scope for broadcast educational work among miners. Subjects of general culture—literature, biography, travel, economics, art, music and popular science would find appreciative listeners among miners no less than among other industrial communities, but—arising out of his occupation—the miner has a special interest in certain aspects of scientific research, and a matter which is giving the Committee some concern at the present time is the question of how best to give publicity in a simple and popular manner to the results of certain investigations affecting the safety of mines carried out by the Safety in Mines Research Board.

'The British Broadcasting Corporation Joint Committee may like to consider the desirability of broadcasting from stations situated in, or near to, mining areas short lectures based upon any of these investigations which appear to admit of treatment on popular lines so as to be of interest, not merely to miners, but also to the general listener.'

There are other special classes of listeners to whom broadcasting brings opportunities denied them by their mode of life. Lighthouse and lightship keepers, and fishermen, are examples of men cut off by their employment for long periods from contact with current thoughts and deeds in the world at large. For them, the broadcasting service should mean added interest and recreation of many kinds, and there is evidence that talks are specially appreciated by them. In Holland, the large population of the barges has in a similar way turned to broadcasting for educational facilities which would be unobtainable in any other way.

There is one section of listeners to whom broadcasting makes an altogether special appeal. There are some 10,000 receiving sets in use by the blind, to whom it is evident that talks and readings may be of incalculable value. The *Radio Times* is already issued each week in Braille, and there is now

the beginning of a demand that Aids to Study pamphlets may be issued also in this form.

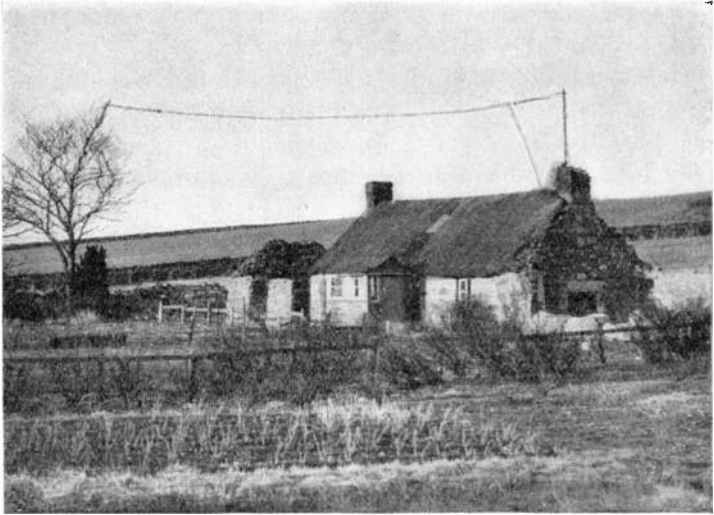
While it is difficult always to distinguish between local and group interests, it is clear that there are many topics which will be of special interest to those living in a particular district. The history of the pottery industry, for example, will be of special interest in North Staffordshire. The possibility of meeting local needs in this way has already been proved at Stoke-on-Trent, where a number of schools already equipped with wireless for day-time purposes have in the evening placed their premises at the disposal of adult students belonging to the pottery trades who wish to listen to a course on Staffordshire industries. It is essential that in any scheme for the re-organization or development of educational broadcasting, arrangements should be made to allocate a certain proportion of time to local programmes.

Cutting across these categories is the considerable body of students attending lectures or classes provided by the Universities, Local Educational Authorities and voluntary



ON A LIGHTSHIP IN THE BRISTOL CHANNEL

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A LONELY HIGHLAND COTTAGE

organizations. These students may differ from other listeners in the kind of programme they want; but for them, as for other sections of the broadcast audience, a claim can be made for a due share of programme time.

Broadcasting was admittedly developed mainly as a means of entertainment. Those whose primary interest in it is educational may represent, perhaps, a comparatively small minority. But those who become interested in some of what they hear, and who are ready to hear more, represent a very much larger number; and it is extremely important that the needs both of the minority and of the greater majority should be satisfied. How is this to be done within the limits of broadcast programmes, and how are the apparently conflicting claims of entertainment and education to be reconciled?

The present position in regard to programme space is this:

A recent analysis showed that 62 per cent. of programme time was devoted to music, which included 10 per cent. of



classical music, nearly 12 per cent. of good light music, 26·5 per cent. of popular music (military bands, musical comedy, etc.) and 12·3 per cent. of dance music. Nearly 2 per cent. of programme time was allotted to drama, including some classical plays; 20·8 per cent. was devoted to talks of all kinds, including news bulletins, readings and topical talks. About 15·2 per cent. was devoted to strictly educational talks, the greater part of which consists of the school broadcasts.

These figures need to be qualified by some reference to the place in the programme of the different items. A large proportion of what is included under talks is broadcast before the main evening hours from 7.45 to 11.0. The school transmissions, for instance, are at an hour at which there is comparatively little competition for space.

The Wireless League, which claims to represent a considerable body of general listeners, made the following statement in evidence, with reference to educational talks:

‘Under the existing limited systems of distribution, we cannot agree that any more time can be allotted to this part of the programme than it occupies at present, and in any event we should be strongly opposed to its inclusion in the programmes at any time after 7.0 p.m.’<sup>1</sup>

Against this must be set the fact that all those bodies which were concerned in any way to provide educational facilities for their members stated quite emphatically that, given at any time before about 7.30 p.m., educational talks would be useless (except in the special case of women, who might listen

<sup>1</sup>The representative of the Wireless League agreed, in cross-examination, that, given a system of alternative wave-lengths, his members would see no objection to an increase in the amount of time devoted to talks; and he also admitted that there was now no serious objection to the talks being given, as at present, at 7.25 p.m. He expressed a conviction that the talks of Sir Walford Davies and Sir Oliver Lodge in the late programme were much appreciated. It is not without interest that some months later a proposal was received from Dr. Fournier d’Albe, through the Radio Association, which, like the Wireless League, is a member of the Wireless Organizations Advisory Committee, suggesting a scheme for a Wireless University.

in the afternoon), and that a later time would in most cases be much better.

Thus, the Scottish and English Councils of Y.M.C.A.'s state:

'It would also be very much easier to arrange co-operation in group-listening and follow-up if it were possible to have the talks a little later in the evening, say, between 8 and 9.30.'

And the National Council of Girls' Clubs:

'For working girls, the educational broadcast is of no use before 8 p.m.'

The Mothers' Union say:

'The most suitable times of the day for broadcast educational work for married women are from 2.30 to 4.30 p.m., and 8 to 9.30 p.m.'

In industries where the shift system of work prevails, men and women may have their leisure during the afternoons or mornings, and talks given during these times would meet a definite need. A demand has also recently come from a Midland district for broadcast talks during the midday dinner-hour, which could be listened to by means of a loud-speaker in a canteen or recreation room.

On the general question of programme time, the Tutors' Association say:

'Time will be required mainly in the evening, although the needs of some shift-workers and some others may be met during the day. In view of the extensive demand which we have described, we suggest that it will be necessary to utilize at least nine hours of the evening programme each week during the winter months for the provision of the various types of courses by which we consider it can be met.'

It is clear from the evidence that no one qualified to speak for men and women interested in educational broadcasting considers the early evening a suitable time. On the other hand, the inclusion of educational items in the main programme after 8 p.m. without an available alternative would be resented by many and, from the point of view of the unity of the programme, would often be impossible. The present

7.25 p.m. adult education talks represent a compromise between those who want a light programme after 7.0, and those interested in talks whose work prevents them from listening much earlier than 7.30. It is, in short, clear that so long as there is, for most listeners, no choice of programmes, much of the demand for special types of talks cannot adequately be met. Nothing but the definite allocation of special hours in alternative programmes can enable the B.B.C. to satisfy the many sections of its vast audience.

This inquiry, therefore, while emphasizing the responsibility of the B.B.C. to the large general public which they themselves have created, and which should on no account be alienated, has shown that equal attention could well be given, in drawing up future programmes, to the needs of the listener and potential listener with special interests.

## CHAPTER III

BROADCASTING AND ADULT  
EDUCATION

IN the preceding chapters an attempt has been made to give a picture of what may become a remarkable experiment in national education. On its adult side it is, in fact, the newest development in a movement which began over one hundred years ago amongst industrial workers, and which has grown to cover a much wider field.

It is not possible here to give more than a short outline of the history of adult education. Before the war it had passed through many different phases. There were first the early adult schools, in which, at the beginning of the nineteenth century, grown men and women were taught to read and write. The interest of working people in the scientific discoveries of the earlier part of the century led to the widespread establishment of Mechanic's Institutes at which studies of a very varied character were pursued. The Co-operative Movement from the outset devoted a fixed proportion of its funds to the education of its members. The Universities first made their contribution to the new developments when in the 'seventies they sent out their teachers to give University Extension Lectures. The establishment of compulsory elementary education and the foundation of free public libraries, picture galleries and museums naturally increased the desire for knowledge.

At the beginning of the twentieth century this demand found expression in the formation of the Workers' Educational Association. This association represented a partnership of working-class bodies and educational institutions. In addition to organizing a large number of more elementary classes, it was instrumental in establishing joint committees in all the Universities for the organization of three-year tutorial

classes, in which intensive study is carried out over a period of three years. The value of this work was recognized officially when, for the first time, financial provision out of public funds was made under regulations of the Board of Education. The possibility of obtaining grants gave a great impetus to the work, and in the session preceding the war there were 145 tutorial classes in existence. The movement developed well-established methods of its own. Its classes were small, as distinct from the early University Extension audiences; the students chose their own subjects of study, and the tutor was appointed in consultation with them. The lecture as such diminished in importance, and the work became more and more a co-operative effort in the pursuit of knowledge.

Thus, during the years preceding the Great War, adult education took on a definite character. It was conceived in terms of advanced university study, adapted primarily to the needs of urban industrial workers. Though the tutorial class movement grew steadily, except for the interruption of the war, there was some danger of its becoming top-heavy, since little was being done for those who were not ready for this more advanced study, and large sections of the population remained outside any serious educational influence.<sup>1</sup>

Since 1918, however, there have been considerable changes in the scope and character of adult education. While the University tutorial class movement was temporarily checked, the war stimulated the interests of many sections of the community. This was particularly true of country districts. For the first time since the 'seventies Great Britain had to face the responsibility of supplying her own needs. With many men away, new responsibilities were thrown on the women in the villages, and the new aspirations which were born of this war-time experience found their expression chiefly in the Women's Institute movement, which, in the course of twelve years, has founded branches in over 4,000 villages in England

<sup>1</sup> For fuller details of the organized adult education movement see *Handbook and Directory of Adult Education*, published by the Yearbook Press, (price 2s. 6d. paper, 3s. 6d. boards).

and Wales.<sup>1</sup> While not exclusively an educational movement in the narrower sense, the work of the Women's Institutes has led to an increasing demand for education from village women.

The awakening of new interests amongst women was not, of course, limited to the villages. Apart from the Women's Institutes, it has resulted in the growth of educational activities in such organizations as the Women's Co-operative Guilds, the Mothers' Union, and the National Council of Girls' Clubs. Evidence is available of the deep interest shown by these bodies in education, and of their readiness to take advantage of any means which might meet their need. The Mothers' Union, for instance, referring to the special needs of their members, say:

'We believe that educational broadcasting might become a very real bond between parents and their children, and that it might be a bridge across the gulf which education sometimes causes between parents and children. We feel also that this section of the community profits less than many others from the education given in earlier years owing to the pressure of domestic work and the somewhat restricted effects of life in the suburbs of big cities as well as on the outskirts of country districts.'

The stimulus of the war, however, has not been confined to the women. The men who came back to the villages after the war had passed through new and strange experiences, and through them social life in the villages awoke to greater vigour. The most striking symptoms of this tendency are to be found in the establishment of new clubs and institutes, in the development, in a number of counties, of Rural Community Councils to foster interest in rural life, and in the widespread use of the rural libraries which have been established in all but four of the counties of England and Wales. It is significant that, though the Rural Community Councils set out to deal with all sides of social life in the villages, the effort to meet a demand for lectures, concert recitals, plays,

<sup>1</sup> The Scottish Women's Rural Institutes have been a parallel development in Scotland.

and similar activities at once occupied much of their energies.

In the towns, also, there has been an immensely varied development of a social kind with a definite educational implication. The increased activities of religious organizations and political bodies, of literary and debating societies, of musical societies of various kinds, dramatic societies, local associations with scientific interests, field clubs, etc., have all done much to make life more interesting for thousands of men and women.

These changes in popular demand have already had their effect on the provision made for adult education. They are reflected particularly in the provision made by public education authorities. The Adult Education Regulations of the Board of Education (1924) recognized for the first time 'Terminal Courses' of eighteen hours' duration (with a special provision for courses of fifteen hours in cases of exceptional difficulty); and University Extension Lecture Courses were also recognized for grant purposes for the first time in the same regulations. Many Local Education Authorities are making generous grants in aid of shorter courses and single lectures given in villages. Several authorities—of which an outstanding example is the London County Council—themselves directly provide courses in non-vocational subjects.

The majority of the voluntary bodies have been quick to realize that courses of advanced study cannot meet this larger need, and that methods devised for industrial workers whose interest is chiefly in economic and political problems are necessarily unsuitable for those with interests of a totally different kind. There has been, therefore, a large increase in the provision of pioneer single lectures and short courses of lectures; and arrangements have been made to meet the appeal for music and drama in the villages, and the demand for talks on books which has been stimulated by the growth of the county libraries.

The growth of the adult education movement is closely connected with the change which has come about in the last

hundred years in the amount of personal responsibility thrown on the individual. To-day, when a serious industrial dispute is pending, or when an international disagreement has arisen, public opinion is often an important factor. Its power, moreover, tends to increase, and unfettered action by leaders to diminish. Adult education must play a great part in the solution of the complex problems ahead of us, because it can do much to secure that balance between reason and emotion which makes sound decisions possible.

Such, then, is the present position of adult education in very broad outline. Although great progress has been made, as yet only the fringe of the problem has been touched. The total population of England and Wales between the ages of eighteen and seventy is roughly twenty-four millions. The question is not only how large a proportion of this population would willingly make use of educational facilities if put within their grasp, but also whether the present methods of providing this type of education can be supplemented by broadcasting.

It is a fact which cannot be ignored that many are not attracted by the more formal facilities for adult education. Because of unfortunate experiences in their youth, the very name of education may be repellent to them, or they may not have realized the wide range of interests to which education can appeal.

There is also a large body of hard-working people who feel disinclined in the evenings to do more than go home, smoke a pipe, read the paper, or play a quiet game. After a day's hard work, it is natural to feel the need for amusement and recreation. They see comparatively little of their wives and families except at the end of the day, and they have no natural inclination to set out again after the evening meal to a lecture or class.

There are, too, the people who, through physical disability, or through isolation, cannot easily avail themselves of existing facilities, even if they feel a wish to do so. There is a large invalid and hospital population, there are the aged, there are busy mothers of families, for all of whom classes and lectures may be out of the question.



There are also geographical limitations. Two things are necessary before any kind of adult education group can be established on ordinary lines. First, there must be enough people willing to form a class or attend a lecture course; and second, it must be possible for a tutor or lecturer to get into touch with them. There are still a great number of places where one or both of these conditions are absent. Some are so small that it is difficult to collect more than half a dozen people willing to undertake a class or course in any given subject; others are so inaccessible, even in these days of improved transport, that the cost of sending a tutor or lecturer would be prohibitive, and it is rarely possible in such places to draw upon local resources. Little can be done at present by the ordinary means for the small group or for the isolated group.

There are other limitations due to lack of money or personnel. To run a large number of small, isolated classes, conducted by properly qualified tutors, is a costly undertaking; and even if the financial difficulty were removed, the point would soon be reached at which it would be difficult to find enough qualified tutors and lecturers. Finally, it should be added that, even in places where a definite attempt has been made to meet the need for adult education, it may be impossible to satisfy a demand for more than one subject at a time. A class in economics may be established, if the largest number of prospective students want that subject; but there will remain the people who may want to study history, literature or science.

The mere indication of these limitations suggests some of the ways in which broadcasting can be of use. Not only can it widen the field from which students may be drawn, by its power to reach and stimulate a large public; it can also fill some of the gaps which at present exist; it can provide for many listeners who can be helped by no other means; and it can serve as an introduction to more formal courses.

Some fear has been expressed that broadcasting might

undermine intensive study. The Workers' Educational Association, for example, say:

'It is desirable that in any final educational scheme adopted for broadcasting, it should be explicitly stated that it is not intended as a substitute for existing adult educational work being done by Universities, Local Education Authorities or voluntary bodies (of which the Workers' Educational Association is perhaps the most important), but that it is rather preliminary and supplementary to existing activities of these bodies.'

There is, however, little danger of broadcast methods of adult education taking the place of other more effective methods. The student will always prefer the normal facilities for study if these are to be found, since nothing can replace the personal contact of tutor and student. But there is no reason why one should exclude the other. Often the broadcast talk will arouse interest in individuals or groups which can only be satisfied by further study in an adult class with its own tutor. In Chapter VIII methods are suggested by which co-operation should be secured between the educational broadcast service and the other bodies concerned with adult education. Effective co-operation will be of value, not only to the broadcasting authority and to the adult education movement, but also to the listener, since it will make it possible to provide him with a service which can more adequately meet his needs.

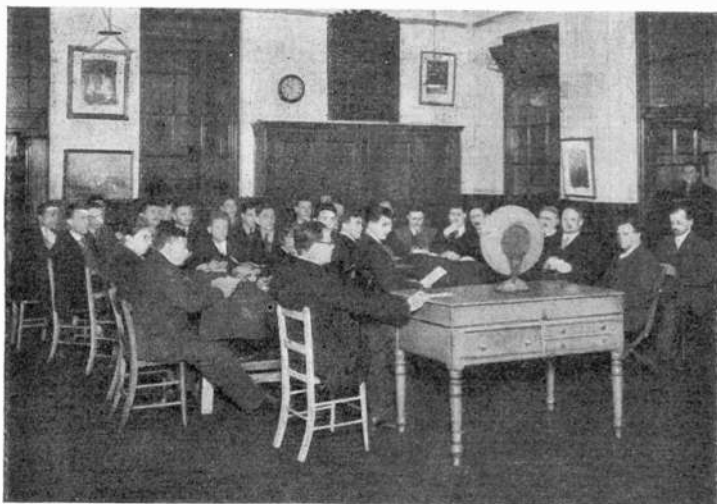
The head of a Men's Evening Institute in the East End of London has summed up the case for broadcast education in these words:

'You are doing one very important thing for us. You are putting us in touch with first-class scholarship and opinion, thus invigorating us (and particularly me) in our efforts. The danger of all schools (and ours is a School, of course) is dust—mental dust. You are throwing open the windows for us and giving us draughts of fresh air. I tell you this because it seems to me to be plain and patent fact.'

For all listeners, moreover, broadcast talks can provide a means of keeping abreast with developments in modern life. Busy people can seldom afford the time to read sufficiently

widely to keep in touch with new thought outside their own particular interests. The broadcast lecturer is in a position, not only to supply this want, but also in some cases to give information which is not yet easily available in books or periodicals.

It remains as true as ever that there is no royal road to learning and that education in the true sense does not begin until the learner by his own efforts begins to master the branch of study he has chosen. Nevertheless, it is a great thing to have a lift on the road and to get, as it were, a view of the promised country before embarking on the pilgrimage. To hear the great man who has overcome the difficulties and reached the heights should be a supreme incentive to face the toil which real learning will demand.



GROUP-LISTENING IN EAST LONDON

## CHAPTER IV

## THE BROADCAST PROGRAMME

IN considering what subjects are likely to be best suited to an educational broadcast programme, it is important to look beyond the more conventional boundaries of class-room education, and to discover if there is any new contribution which broadcasting can make to educational methods.

It is clear, for instance, that one important business of the broadcaster is to convey new knowledge, and to suggest to the listener new points of view, and new perspectives. Foreign affairs, for example, to-day play an important part in the life of the ordinary citizen, because he is affected as never before by economic and political events in other countries. Yet there are of necessity few textbooks and little general literature on the subject of current international relations. In Professor Noel Baker's<sup>1</sup> view, broadcasting has a responsibility of a very special kind in respect of international affairs :

‘That responsibility results in the first place from the great potential power of the instrument of broadcasting for the educational purposes above discussed. . . . It results, in the second place, from the nature of broadcasting itself. The future development of broadcasting throughout the world must depend on close and continuous co-operation between the Governments and the official and unofficial radio corporations of different countries. This co-operation will be needed in every kind of technical process and regulation. It may be suggested, therefore, that even in simple loyalty to its own future destiny, the B.B.C. has a special responsibility in respect of education about international relations.

‘This consideration is reinforced by a third. The instrument of broadcasting is one that is peculiarly liable to prostitution to the purposes of political or national propaganda. It may be suggested, therefore, that it should be part of the conscious policy of the B.B.C. to endeavour to establish standards

<sup>1</sup> Cassel Professor of International Relations, University of London.

of thought on international subjects that will make such prostitution of broadcasting an offence which the public opinion of no country will tolerate. . . .

‘Fourth, it must be remembered that in any case, whatever the policy of the B.B.C. and other radio authorities may be, broadcasting must have a powerful effect of one kind or another on general opinion with regard to international affairs. There is already a large amount of listening to foreign stations; such listening means that the listeners hear foreign news and sometimes foreign speeches which inevitably affect their attitude to other countries. Every broadcasting authority has already, therefore, a direct responsibility which it cannot escape, and a responsibility which, with every technical improvement, must obviously increase.’

Lord Cecil, from the weight of his experience, gave it as his view that:

‘. . . There is in this subject as much scope for impartial instructional work as there is in any of the other subjects—political economy, economic history, political history, etc.—to which, as I understand, existing adult educational organizations devote most of their efforts.’

And he added his hope that, as a result of this inquiry, the B.B.C. might consider:

‘The devotion of an adequate part of their educational programmes to the various aspects of international relations.’

An interesting experiment is being made at present with a weekly fifteen-minute talk on current affairs in the world at large, which, even within these narrow limits, can point to what is significant in the news of the day from overseas.

The general public is naturally very much interested in the development of Empire broadcasting. The aim of the B.B.C. is to link together the various national systems for the benefit of the Empire; in other words, to make it possible for Great Britain and the Dominions and Colonies to listen to each other’s programmes. It is scarcely necessary to emphasize the important bearing this development will have on the relations of the different communities within the British Commonwealth, nor the interest it will have for those who are thinking of making their homes overseas, and will thus be able to

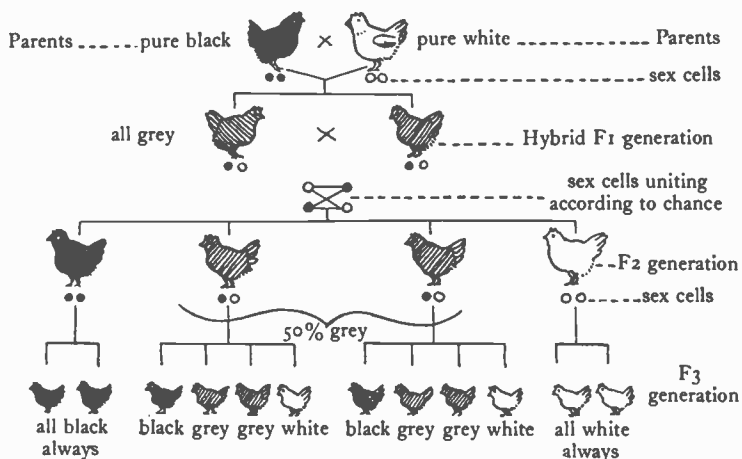
learn something at first-hand, through broadcasting, of the country to which they may be going.

At the other end of the scale, there is the familiar truth that education must start from the normal interests of the individual. As educational institutions have been brought progressively into closer touch with the life of the nation, there has been a progressive broadening in the range of the subjects treated. Much of the educational work in certain of the Evening Institutes of the London County Council, for instance, is based on popular hobbies such as photography or poultry-keeping. People will generally listen with pleasure and profit to a discussion, even a comparatively difficult discussion, on matters arising out of some subject in which they are interested. The popularity of poultry-keeping is being made the starting-point for talks and lectures on elementary biology and chemistry, from which many people pass to an interest in these sciences. Broadcasting puts the educational world in touch with a new public, and educational talks will succeed only if they start from the normal interests of this public. While this is true in particular of young people, who are accustomed to think in terms of concrete objects rather than to deal with generalizations or abstract ideas, it is also true of most grown-up people. It is clear, therefore, that the principle of starting from what is known, and of connecting up existing experience with further knowledge, is one of the essential points to be remembered in trying to meet, through broadcasting, the educational needs of the general public.

When we turn to consider in more detail some of the main branches of knowledge which have been taught or which might be taught, by wireless, we are faced with the fact that educational broadcasting is still so much in an experimental stage that anything which might have the effect of stereotyping either subjects or methods must be carefully avoided. The greatest possible freedom of experiment is essential, even at the risk of some failures, for only in this way can we avoid the danger of standardizing educational programmes before all the possibilities have been realized. There is, of course,

always a tendency to prefer those subjects which have been immediately successful, and which have gained a large measure of appreciation from listeners, and not to repeat attempts which appear at the moment to have been failures. That is, perhaps, inevitable so long as present conditions continue; and one of the advantages of alternative wave-lengths is that they will provide for greater freedom of experiment and the working out by the process of trial and error, of new methods in those subjects which can only be successfully adapted for broadcasting when a suitable technique has been discovered.

In the meantime, it is possible to say with some degree of certainty that some subjects are peculiarly suitable for



MENDELIAN INHERITANCE IN FOWLS

Black crossed by white (of the right breed) give all Blue Andalusians (grey). When a grey is crossed by grey there appear black, white and greys in the proportions given. When each of these is mated with a bird of its own colour the black only give black and the white give white, but the greys throw blacks, whites, and greys in the same proportions as before. This is the fundamental Mendelian law.

*Illustration from a pamphlet issued in connexion with a series of Talks by Mary Adams on 'Problems of Heredity'.*

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broadcasting, while others are just as unsuitable. In the first class are those subjects, the appreciation of which depends mainly on the ear. The chief of these is music. Here, interpretation and illustration appeal to the same sense: concentration is made easier for the listener, for in a talk on music the spoken word can alternate with appropriate musical illustrations, which help the lecturer to make his points clear. The broadcasting of illustrated talks on music must have a marked effect upon standards of musical appreciation. In this important branch of education, broadcasting suffers little, if at all, by comparison with ordinary lectures, provided only that good reception is ensured. The B.B.C. has been fortunate in finding in Sir Walford Davies a musician who is a master of broadcasting technique, and whose work has shown some of the possibilities which could be developed as more programme time becomes available. It should be possible, for instance, to increase the length of such talks without imposing an undue strain on listeners; while other activities might be developed in co-operation with musical societies, musical festivals, choirs and other bodies throughout the country. The English and Scottish Councils of the Y.M.C.A. have submitted a memorandum on this subject:

'More could be done to use wireless as an agent in the promotion of musical performance and appreciation throughout the community. In addition to the "concert" type of programme, there should be developed an "educational" policy aimed at the development, for example, of male voice choirs. Experience has shown already that transmissions can be profitably used to reinforce many of these activities which form the musical side of adult education, and we hope that co-operation in this field will form part of any policy of adult education.'

What has been said about music applies also to literature, and especially to poetry and the drama. There is great value in the mere reading aloud of beautiful passages of literature. The speaking of a poem may make it alive for the listener, and he may find a meaning in it which he could not extract from the printed page. This is, of course, especially true of the





SIR WALFORD DAVIES BROADCASTING

listener who is not a fluent reader, and has not yet acquired a taste for books. Miss Browning, County Librarian of Warwickshire, says in her evidence:

‘It is a curious fact that when addressing village audiences the speaking of poetry is greatly appreciated, though volumes of poetry in the rural libraries are not popular, except among children attending some of the better schools. This suggests that many borrowers do not read sufficiently fluently to appreciate rhythm for themselves. By familiarizing rhythm, wireless could do much to encourage the reading of poetry. I suggest poetry readings on the principle of the 7.15 music recitals. Also unannounced readings of appropriate poems. The value of surprise on the wireless is not sufficiently realized.’

The actual reading of texts, with such simple interpretation as may be necessary, should be an essential part of broadcasting. Merely talking about periods of literature, or learned criticisms of out-of-the-way books or authors, when there is no guarantee that listeners have read them or will read them, is likely to be less valuable. The possibilities of reading aloud both prose and poetry, either with or without suitable comment, in the general programmes have scarcely yet been fully tried.

In both music and drama, much might be done to stimulate active response on the part of groups of listeners. There is today in all parts of the country a growing interest in drama, and the local production of plays in towns and villages is obviously of educational value. The broadcasting of play-readings by skilled artists will help to set a high standard in this work, and a link might be established with local groups by broadcasting suggested plays, together with talks on producing, on costumes, stage setting, etc.<sup>1</sup>

Finally, languages, English as well as foreign, should be placed in the group of subjects peculiarly suited to the

<sup>1</sup> It is interesting to note that an experimental course of this kind, arranged in consultation with the National Federation of Women’s Institutes, has been given during the Spring Term of 1928 by Mrs. Penelope Wheeler. Groups also followed Mr. St. John Ervine’s series on modern drama.

broadcast method. Broadcast readings will help listeners to appreciate the beauty of good English—whether in its standard form or in the dialects; and further appreciation may be aroused by talks on words, forms of speech, the structure of the language, etc. In the teaching of foreign languages, there is obviously great scope for broadcasting. One of the difficulties confronting the student of limited means who is unable to travel and cannot arrange for lessons with native teachers, is the difficulty of hearing the actual pronunciation of the language he is trying to learn. This difficulty can be overcome by broadcasting, and much useful work has already been done by the regular transmission of French, Spanish and German talks from all stations of the B.B.C. Reference has already been made in Chapter I to the successful results of language teaching by wireless, and there is still room for a great deal of experiment. Actual conversations in the studio have been found useful. The German stations have devoted a great deal of time and thought to language teaching. Their usual method in the teaching of English, for example, is to have both an Englishman and a German before the microphone. The Englishman speaks only in English, and the German explains and asks questions. As the lessons become more advanced the Englishman does all the talking. We believe that some experiments along these lines would be extremely useful; and it is to be hoped that when there is more time available for educational broadcasting, more frequent lessons will be given, and that other languages will be added to the list of those already broadcast in this way.

The question of using broadcasting for the teaching of an international language raises many difficult problems. It is undoubtedly true that broadcasting does for the first time provide a chance for a living international language, since the universal character of broadcasting would provide a safeguard against the tendency toward national differences of usage and pronunciation. But it is difficult to make any recommendation until such time as agreement has been reached amongst the various claimants.

Subjects which are capable of realistic descriptive treatment may be said to come next in order of suitability. These include scientific subjects, which do not demand too much experimental, mathematical or diagrammatic illustration, talks on health and hygiene, descriptions of foreign places and peoples, and historical sketches. The more the broadcast teacher is able to appeal to the mind of the listener through familiar objects and experiences, so that what he has to say is easily apprehended without external aids, the more suitable will his subject be for broadcasting. If, in addition, his subject is one which satisfies a keen curiosity about things which are present to the imagination of the listener, his task will be so much the easier. For that reason, such subjects as biology and nature study may be more likely to succeed than the more abstract physical sciences, although the applications of chemistry and physics to industry and the home can usefully be dealt with by the broadcast method. Such teaching should not aim merely at giving the listener a smattering of popular scientific knowledge, but should present a balanced view of the subject as a whole and an insight into the methods employed by the scientist. The talks by Sir Oliver Lodge and Sir William Bragg are excellent examples of this.

Similarly, descriptive talks on travel lead to a general interest in this and other countries, and may be used as the background for the treatment of history, geography, and the study of social and political institutions. There is evidence of a wide appreciation of travel talks. On the one hand they make a direct appeal to the imagination, and on the other they may do much to encourage foreign travel.

The technique of teaching history through broadcasting has not yet been fully examined, but the results so far achieved have been encouraging. The biographical method has been found to be useful, not confined necessarily to the biographies of well-known historical personages. One lecturer was able to give six vivid talks on 'Village Life in Olden Times' by drawing on typical characters in contemporary chronicles or manorial rolls, and another found it convenient to invent a

fictitious biography in order to give reality to his treatment of the social history of the early nineteenth century. Experience has shown also that it is possible to deal with history in such a way as to link it to the interests and experience of listeners who have no particular historical sense, and who can only be brought to visualize the past if it is made to exist for them, not in dates and lists of events, but in a form which has some relation to themselves and their own lives. A graphic survey of 'Europe Throughout the Ages' from the earliest times, given in the winter of 1927-28, met with marked success. As one listener expressed it, he had no idea ancient history was like that.

Certain subjects seem to be less suitable for broadcast education, because it is impossible for the teacher to deal with them without following step by step the attempt made by the student to understand and to reproduce what is being taught. For example, this seems to be true of such subjects as mathematics and some of the more abstruse branches of scientific study.

In the past, a rigid line of demarcation has been drawn between technical and non-vocational education. To-day, the separation of the two is less marked as it comes to be realized that technical subjects can be treated in such a way as to link them to broader interests. At present there are, perhaps, comparatively few experts in the teaching of technical subjects who can impart this living interest to their lectures. It is accordingly necessary that broadcasting should endeavour to point the way by including in its programmes talks on such subjects treated by experts of national reputation. As an example of what may be done, we may instance the series of talks on the history of electrical engineering given by Professor Cramp, which was followed with interest by students in technical colleges and other groups, and which showed by the correspondence which the lecturer received, and the papers submitted in answer to the questions which he broadcast, that their interest promised to be a lasting one. This course showed also that, as with popular science generally,

there is a large unsatisfied demand for subjects not usually included in the adult educational programme.

The case for the inclusion in broadcast programmes of material likely to help those engaged in agriculture, commerce or industry, need not be argued in view of the manifestly vital importance of the subjects. Evidence given by a representative of the Ministry of Agriculture, for instance, shows that the present fortnightly practical talks to farmers on matters of current importance, as well as the monthly talks on the results of recent agricultural research or practice, are increasingly



SHOPS OF THE FOURTEENTH CENTURY

*Illustration from a pamphlet issued in connexion with a series of Talks on 'Europe Throughout the Ages' by Norman Baynes, Eileen Power, and D. C. Somervell.*

appreciated. Listeners, it is reported, include not only farmers, but their wives and daughters. Boys and girls living in the country, moreover, for whose continued education there is as yet no complete provision, can lay special claim to have their needs considered in educational broadcasting.

An equally good case can be made for education in health. It is scarcely necessary to say that such talks should not deal with diseases and what to do about them, but with health and how to keep fit. Much may be done in the way of lectures on hygiene, diet, food values and the care of small children, and few subjects are so popular. In the view of the Ministry of Health, health education should, and could be, an important part of broadcast education.

We come now to a group of subjects, the social sciences, which must form part of any comprehensive broadcast educational programme, because they correspond to the dominant interests of important sections of the community, many of whose members look to broadcasting as the only means of obtaining easily the information and guidance they need. There is evidence of a considerable demand for elementary talks on citizenship and on familiar economic problems, explanations of how the laws of the land affect us, or of what facilities are afforded by the public services. Political theory and economics both seem capable of successful treatment, provided they are treated realistically. For instance, discussion of the kind of problems with which economics is concerned arises naturally out of the facts of history, or of present-day social organization; a theory can be shown as an attempt to generalize from the facts, or as a hypothesis on the basis of which the facts can be explained. In dealing with all these subjects it is essential to stimulate and retain the interest of listeners; mere academic discussion which has no point of contact with common experience cannot accomplish this. Here, more perhaps than in any other field, discussion by the listeners adds enormously to the value of the talks. Attempts to interpret social phenomena must, of course, lead to widely differing conclusions, and it is important that these should be

stated freely and frankly, so that thought and speculation may be stimulated, not lulled into a false feeling of certainty. This leads to the whole question of controversy.

When the British Broadcasting Company was first established, the Postmaster-General was required to exercise a general censorship over programmes, and it was laid down that nothing should be broadcast on any subject which was regarded as a matter of religious, political, or industrial controversy. It was not intended to impose a permanent ban on such subjects, but it was felt that, in experimenting with a new medium possessing such unlimited potentialities, it was wise that programmes should at first keep to safe and familiar paths, and avoid arousing antagonism or protest. When the Company became a Corporation, the Postmaster-General ordained a probationary period during which controversy should still be avoided, though the responsibility for observing this in detail was placed not on the Post Office, but on the Governors. The policy pursued hitherto has been admittedly a temporary policy to permit of experiment and to secure gradual advance, as the public gained confidence in the impartiality and discretion of the Corporation.<sup>1</sup>

We should like to express in the strongest terms our conviction that to cut out controversial subjects is to cut out all that is most stimulating and most important to men and women, both as individuals and as citizens. We regard it as one of the most important functions of broadcasting, that it can bring to the microphone leading exponents of many points of view, in philosophy, in politics, in art, and in all branches of thought. It should have a wholesome effect on the nation as a whole, if listeners can acquire the habit of hearing with patience and equanimity differing points of view expressed in an authoritative, reasonable and fair-minded way. It is also essential to fruitful discussion that the speakers' treatment should be sufficiently emphatic to provoke argument.

<sup>1</sup> Since this was written the ban on controversy has been relaxed. These pages are retained, however, because of their important bearing on educational broadcasting.



It is, of course, clear that if this function is to be discharged successfully, method and handling are all-important. Broadcasting has peculiar properties which differentiate it from the printed or the spoken word. The wireless lecture-room has no walls and no closed doors, and what is broadcast may, therefore, come to the ears of people of all ages and all stages of education and development. Nevertheless, we believe that broadcasting must cover as far as possible the whole scope of human thought and speculation, and admit to its platform all who are fitted by training and experience and proved reputation to discharge this responsible task. It is, of course, of vital importance that strict care should be exercised in choosing those who are to speak at the microphone and in ensuring that only those with a proper sense of their responsibility should be asked to deal with subjects of a controversial kind. Once chosen, however, we think it important that the fullest possible freedom should be given to the lecturer to deal with the subject, without necessarily tying him down to a manuscript submitted in advance. There is a great University tradition in this respect, and the broadcast lecturer should be as free as the University lecturer in the handling of controversial matters, within the obvious limitations of a universal medium.

While the use of broadcasting for any partisan purposes cannot be too strongly deprecated, courses on politics, social history and economics should be an essential part of any educational programme.

We believe also that debates and discussions are amongst the most effective and popular ways of dealing with controversial subjects. Although here the speakers are frankly partisan, the public can listen with comparative equanimity because there is an atmosphere of fair play. We very much hope that at the earliest possible opportunity permission will be given for the scope of debates and discussions to be widened, so as to admit most of the chief subjects of popular interest.

## CHAPTER V

THE LISTENER AND HIS  
DIFFICULTIES

IF the listener is to get the most out of broadcast programmes he must himself play an important part. If he merely switches on his set, without consulting the programme, and breaks in upon the middle of a play, a song, or a talk, his interest and attention are seldom caught and held. If, on the other hand, he takes the trouble to note beforehand the particular concert or lecture or dramatic performance to which he wishes to listen, he gives himself a real chance to appreciate it. A certain kind of programme of light music, or familiar music, may, it is true, serve as a pleasant background to other occupations, and the constant listener may develop a capacity for listening to one thing while he is doing another. Many listeners who would never have chosen to listen to classical music or to talks have acquired a taste for them from the habit of casual listening. This constitutes one of the chief educational implications of broadcasting. Nevertheless, the regular listener or student listener cannot expect the maximum satisfaction from broadcasting unless he is willing to co-operate to the extent of choosing deliberately the items to which he specially wishes to listen.

While in the next few pages we are concerned mainly with the listener who is anxious to use broadcasting as a means of adding to his knowledge and interests, it is necessary to emphasize again the importance of continuing the policy so successfully pursued in the past by the B.B.C. This policy has aimed at securing the attention and goodwill of the general public, too busy or too little stirred to devote much time to actual study, who are nevertheless acquiring through this new medium new ideas, new points of view, and new sympathies. If too little space seems to have been devoted to their

requirements, it is for two reasons; first, that the B.B.C. is already alive to their wishes and fully competent to meet them out of the experience gained in the last few years; second, that the use of broadcasting for more systematic educational work is yet in its infancy, and that this inquiry has, therefore, been concerned more with this aspect. While to many listeners a fuller provision of this kind may as yet make no special appeal, we believe that their interests will be increasingly quickened and widened.

Broadcasting offers the student listener a number of advantages which do not exist in more ordinary methods of adult education. In the first place, he has not to go out in order to hear his lecture, and his enthusiasm need not, therefore, be affected by bad weather, or uncongenial surroundings, or any of the other drawbacks sometimes associated with attending classes or lectures. Such advantages are especially valuable for those who have home ties, as is the case with many women. In the second place, the financial sacrifice required of the listener is comparatively small. Again, for broadcast education, no formalities are required; the listener is at once admitted to a large circle of students who have access to the minds of the greatest and most skilful teachers. These advantages carry with them a danger to the student, since effort is an essential part of education. From the listener's point of view there are, moreover, certain other disadvantages in broadcast education. For instance, he must suit his convenience to the moment when the talk which he wishes to hear is being broadcast. The talk is usually short, with the result that it is difficult to get enough substance into the time available. Further, his home, even though it may be comfortable and convenient, may have its own distractions—children, general conversation, household preoccupations. Finally, the listener may not obtain, through atmospheric conditions or from technical reasons, the best possible reception by his apparatus.

The technical factor is all-important in making successful use of broadcast educational facilities. Second-rate apparatus

and poor reception entirely spoil the pleasure and profit of listening to the human voice, and reduce the educational value of talks to a minimum. This is especially true in the case of discussion groups who are listening by means of a loud-speaker. Much of the value of a talk will be lost if it is converted at the receiving end into a thick, throaty, inhuman noise which is liable to fade without warning into happy inaudibility.

Some difference of opinion exists in regard to the respective merits of headphones or loud-speakers for group-reception. The evidence is so much at variance that it is impossible to say that one method is in general superior to the other. There are strong arguments in favour of both. Good headphone reception is undoubtedly preferable to poor reception through a loud-speaker, and is, on the whole, easier for the technical non-expert to obtain; but the question of the cost is serious for larger groups of any kind proposing to use headphones, and for this reason the loud-speaker will be more frequently used for this purpose. The following statement by Professor Cyril Burt<sup>1</sup> is of interest in this connexion:

‘It feels unnatural to sit eavesdropping through earphones while a conversation between two or more unseen persons is being carried on. Where headphones are likely to be used, I am inclined to suggest that somewhat narrower limits in time will be found advisable. If a loud-speaker is available, and if the lecture is only to last for five or ten minutes, the listener will not trouble to adjust his headphones for so short a time; and will wait to pick it up through the loud-speaker. If the lecture is moderately long, however, he may prefer to employ headphones. But again, if it is of considerable length, headphones may become fatiguing (there seem wide individual differences in this respect). Certainly, lectures intended for class-work will nearly always necessitate a loud-speaker, and will usually require to be sufficiently long to make it worth while for the group to gather. Thus, of all methods, group-listening with a loud-speaker will be least likely to incur the risk of fatigue and boredom.’

Now the wireless discussion group resembles the ordinary

<sup>1</sup> Psychologist to the Educational Department, London County Council.

adult class in the sense that its members attend voluntarily, and are liable to be easily discouraged and dispersed by one or two unfortunate meetings, particularly at the beginning. Bad reception, therefore, is the worst enemy of the spread of educational broadcasting. Every group that receives a talk on bad apparatus will discourage dozens from joining such groups. This difficulty has already been recognized by the B.B.C. in the development of school transmissions, where it has been found that many promising experiments have been spoiled through the use of indifferent apparatus or the failure to keep good apparatus in an efficient state.

It is, therefore, a question of how far means can be devised to ensure that wherever wireless discussion groups are formed their apparatus should be kept up to the highest pitch of efficiency. Already in connexion with school transmissions a number of engineers are employed by the B.B.C. to visit schools, to report on the apparatus in use, and to improve its efficiency wherever possible. Some provision needs to be made, at any rate during the initial stages of growth, for similar help to be provided for adult groups, and in later chapters suggestions will be made on this point.

To-day, bad reception is as a rule an unnecessary evil. While no one would claim that every technical problem of wireless had been solved, it is nevertheless true to say that the transmission of speech and music has been brought to a very high degree of perfection, and that if proper components and circuits are used in the making of sets according to the task which is required of them, there is no reason at all why the listener should not be able to receive the sounds as they are transmitted, free from distortion and, apart from external interference, free from distracting background noises. Many of the receiving sets on the market, however, designed by reputable firms, are retailed at a price which is beyond the reach of people of very limited means. The result is that a large number of the sets actually used are put together in many cases by amateurs who have more enthusiasm than technical knowledge, and are often quite unsuitable for the

tasks imposed upon them. Some listeners, unaware of what really good reception can give them, either endure poor results or give up the effort.

As a contribution towards the solution of this problem, a statement is printed in Appendix A on the choice, construction, and use of sets for group-listening, with details of sets designed by the Corporation and guaranteed to give pure reception of speech and music within the ranges specified. This does not, of course, solve the difficult problem of cost. This may ultimately be met in either of two ways. Sets might be acquired co-operatively by two or more bodies. It should also be possible for many clubs and institutes to devote funds to the acquisition of suitable receiving sets and to providing accommodation for those of their members who want to receive the educational broadcasts. Evidence submitted by the National Council of Girls' Clubs shows that a special effort to obtain funds for this purpose would meet with a ready response. There is another solution which is already on the horizon, that of a greatly increased range of cheap and simple reception, made possible by the establishment of regional high-power stations. The Regional Scheme will make it possible for a much larger proportion of listeners than at present to listen at a low cost. From the point of view of adult education, this scheme is a practical necessity not only because by its means alternative programmes will become possible, but also because it will bring all owners of cheap and simple receiving sets within the range of educational broadcasting.

Two further points may be urged: firstly, it is unreasonable to suppose that a complete educational service should be available for everybody at the relatively small cost of the cheapest kind of set. Secondly, it is likely that many people of limited means will be willing to pay for such a service, either out of savings or by gradual payments, as many thousands at present pay for bicycles or gramophones.

Allowing for the balance of those advantages and disadvantages which seem inherent in broadcast education, how is the serious listener to get the greatest educational value

from it? In the first place, effective listening calls for a definite mental effort on the part of the listener in the way of concentration and attention. To those who fear that the appeal to one sense only might mean a serious loss of educational value may be commended the following passage from Professor Burt's memorandum:

'All, I imagine, must be agreed that this new means of communication holds enormous possibilities for adult education—far more probably than for the education of children. If broadcasting be compared with the cinema, then already the wide and wholesome educational influence of the former will be seen in striking contrast to the limited intellectual influence of the latter, and with much that is unwholesome in its tendencies. The credit for this is largely due to the way in which broadcasting has been organized, and to the good judgement with which the programmes have been selected and arranged.

'But there is a reason more fundamental. The cinema and the wireless both treat us as creatures of a single sense: the cinema assumes that we are deaf; the wireless that we are blind. Now, contrary to popular opinion, deafness is a more serious handicap than blindness. As the educational progress of the congenitally deaf and the congenitally blind clearly shows, it is a smaller hindrance to intellectual instruction to be permanently deprived of sight than to be permanently deprived of hearing. Man owes his intellectual superiority, not to sight, which he shares with other animals, but to speech and (what goes with it) an ear which can appreciate fine differences of pitch and timbre, both of which are his own unique possessions. Hence, however wisely it might be exploited in the future, a medium of instruction which appeals solely to the eye must always be much less effective than one which appeals solely to the ear.'

Visual and other aids, however, are bound to play important parts as auxiliaries to the broadcast lecture. While broadcasting should seek to make itself as independent as possible of the other senses by developing the special qualities of its one medium to their fullest extent, it is evident that every possible supplementary aid should be made available for the listener who may be inclined to use such additional help. In this connexion the development of television may mean a powerful addition to the potentialities of educational broadcasting.

E

The importance of pictorial aids is coming to be more and more recognized in adult education. There are certain subjects, such as music, literature and philosophy which do not depend essentially on pictures, diagrams and charts, although these may be a useful addition. But in treating technical, historical, and artistic subjects, and many scientific subjects such as natural history, as well as some kinds of travel talks, illustration is practically a necessity.

The B.B.C. has already reached the conclusion that publications must form an essential adjunct to broadcasting. The *Radio Times* and *World Radio* were early in the field, and they have steadily widened their scope. Many listeners are anxious, after they have heard a talk, or a series of talks, to read the matter in print, and these are occasionally given in both journals. The B.B.C. has also arranged, with excellent results, to print and distribute Programmes of Talks and Lectures for schools and for adults, containing details and illustrations, and to extend the useful and handy Aids to Study pamphlets, which consist ordinarily of a detailed syllabus, suggestions for discussion, bibliographies and illustrations.

There is now a great need for the publication by the broadcasting authority of a weekly illustrated educational journal containing some of the matter now printed in the pamphlets, together with much additional and supplementary material in the form of articles and pictures. Such a journal would perform a valuable service to educational broadcasting, directly as regards educational work, and indirectly by supplying a background of general knowledge and information.

Any consideration of the Aids to Study pamphlets leads straight to the all-important question of book-supply. It is essential that a listener should have every encouragement to read for himself; but it is not enough to draw the listener's attention to the titles of books likely to be of use to him. In adult classes, even where a box of books chosen by the lecturer has been supplied to the students, experience has shown that the best results are obtained when their reading is helped and guided. Short bibliographies for each course supplied by



the lecturer should continue to be printed, as they are at present, both in the programme of talks and in the pamphlets. Wherever possible, the lecturer should give references to specific parts of books rather than to whole volumes, and a short note about the contents of books recommended has been found to stimulate the interest of the student. But it is clear that the need for guidance in reading can only be fully met by the closest possible co-operation between the B.B.C. and the libraries throughout the country which supply books to the public.

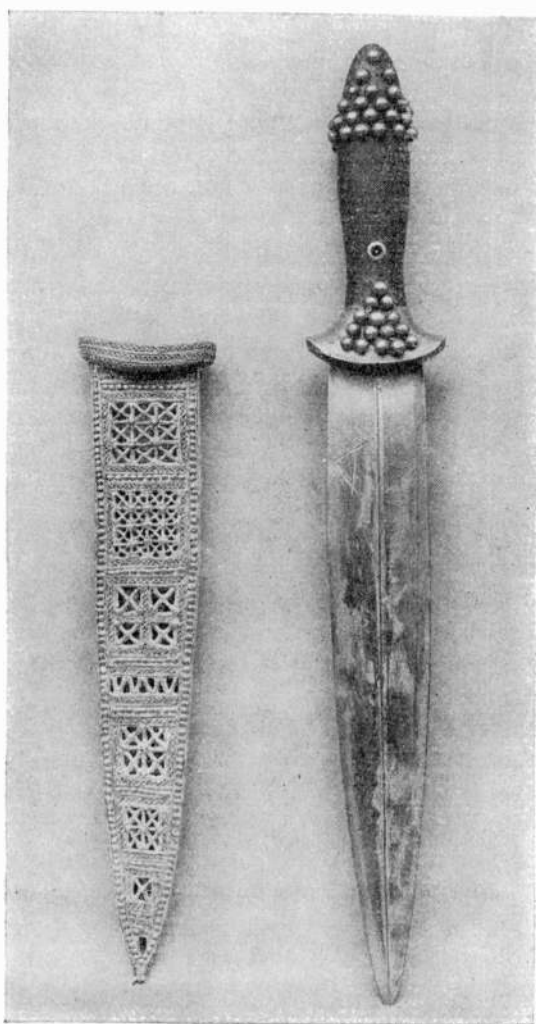
At the beginning of the Summer Term 1927, the B.B.C. issued a questionnaire to public librarians throughout the country, which included the following questions:

(1) Did you notice any effect of broadcasting on the demand for books in the last three months? Which talks, if any, were particularly successful in this way?

(2) Can you suggest any further lines of co-operation between your library and the B.B.C. for the promotion of reading in your area?

Of the librarians in Great Britain who returned answers to the questionnaire, the majority reported an increase in the issue of books referred to in the adult education talks. This seems to show that the fears sometimes felt that broadcasting would become for the general public a 'soft option' for reading, and that serious reading and study would be discouraged, are not justified by the facts.

Public librarians have shown their willingness to assist by offering to distribute the Programme of Talks and Lectures, and to bring the broadcast educational facilities to the notice of their readers. Some have checked the bibliographies connected with the talks by their own stock of books, and have published short lists showing their readers which of the books recommended were available in their libraries. Several librarians regularly purchase whatever books are recommended by broadcast lecturers, and when they have not actually the books in stock, prepare supplementary lists of books which they would themselves recommend as substitutes. Certain county



A DAGGER FROM UR OF THE CHALDEES

*Illustration from a pamphlet issued in connexion with a series of talks on 'Metals in the Use of Man' by Professor Desch.*

*By courtesy of Mr. C. Leonard Woolley, Director of the Joint Expedition of the British Museum and the Pennsylvania University Museum to Ur of the Chaldees.*

libraries are sending out copies of the Talks Programme with every box of books which they dispatch. This connexion between the public librarian and the B.B.C. should be strengthened in every way possible. Consultation might take place between the B.B.C. and its lecturers on the one hand, and public libraries on the other hand, on the preparation of bibliographies and the encouragement of the public to obtain the books referred to, and advantages might result from occasional broadcast talks by public librarians on the use of books and on the facilities offered by public libraries. It is possible also that the public libraries might be able to offer help in the promotion of wireless discussion groups. Many public libraries have rooms which are suitable meeting-places for groups, but it is doubtful whether they would be allowed to set aside rooms in which such groups might meet even if they provided their own apparatus. In this connexion, however, it is important to note that the recent Departmental Report on Public Libraries (CMD 2668) recommends (para. 216):

THAT the Public Libraries Act should be amended so as to provide that a public library authority (1) may use the library rooms for any purpose calculated to promote the use of the library; (2) may, for that purpose, provide lectures, etc. . . . ; (3) may allow the library premises to be used either at a rent or free of charge for any purpose which the Authority thinks proper.

If this recommendation should, in due course, be translated into law, the reception of broadcast talks and the provision of receiving apparatus might well be interpreted as coming within the scope of the educational functions of the public library. There are, undoubtedly, certain difficulties connected with copyright and the re-diffusion of broadcast matter. But, where the programmes are to be received by bodies who install sets for educational purposes, it should be possible to overcome this obstacle.

Contact between mind and mind is an essential factor in all forms of education. The stimulation of interest by the talks leads naturally to discussions with other people and the

formation of groups for this purpose. These would tend to be less formal in character than ordinary adult classes. They might consist either of groups round a fireside, or they might be linked on to some movement which brings listeners together for other purposes, for instance, clubs, societies, institutes. There is no reason why members of such organizations should not listen separately and meet for discussion afterwards.

As interest grows, both in the individual and the group, informal educational work may often lead on to more formal kinds of adult education. The guidance of study for isolated listeners will always be a necessary part of the work of the B.B.C., but wherever possible, the listener who is anxious to continue his studies ought to be encouraged to avail himself of the facilities provided by one or other of the existing adult education bodies which are equipped for this purpose.

The results of such experiments as have been made in group-listening are encouraging. An East End Men's Institute asked for a course of lectures on social history after hearing talks on Howard and Wilberforce. A Workers' Educational Association group in Sussex is arranging to read Plato's *Republic* after following a broadcast course on philosophy by the Master of Balliol. A large group of fifty-two in Cambridge followed the first talk in a course on problems of heredity by an hour's questions and discussion. In East Anglia another group has been following the same series in the lecture room of the local Museum which has been placed at its disposal free of charge. In Stoke-on-Trent prizes of books have been offered locally for the best essays on questions arising out of the course on Staffordshire industries. The donors included Mr. Arnold Bennett, Mr. J. C. and Mrs. Barbara Hammond, Major Frank Wedgwood, Sir Francis Joseph, the Mayor of Stoke, the Director of Education, and the Stationmaster of Stoke.

It seems clear that most discussion groups will depend upon the personality or keenness of one or two persons. The group-leader will obviously have an important part to play.

His function is to supply contact between his fellow listeners and the lecturer by formulating the questions of the group, keeping in touch with headquarters and with the lecturer, and stimulating and directing the discussions. The task of such a group-leader is not altogether simple. Discussions do not automatically result even where a group has been got together to listen and all arrangements have been made. Everything will depend on the presence of some person capable of taking charge of the discussion and prepared in advance to take the lead. Group-leaders may be drawn either from ex-students of adult classes with some training in the conduct of debates, etc., or from others with some experience or with natural ability to take a lead in discussion. It is probably in this direction that the various voluntary bodies could particularly assist in the development of educational broadcasting, by helping to provide group-leaders for broadcast discussion groups.

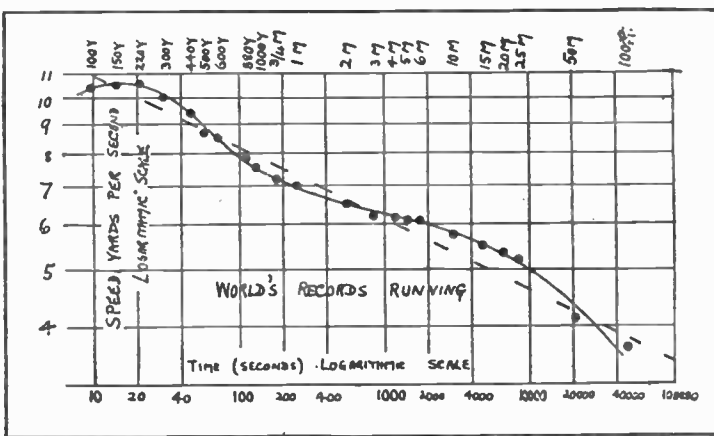


Diagram from a pamphlet issued in connexion with a series of talks on 'Speed, Strength and Endurance in Sport' by Professor A. V. Hill.

## CHAPTER VI

## THE BROADCAST LECTURER

THE technique of broadcast lecturing differs in many important respects from that of ordinary popular speaking and lecturing, and indeed, from the technique of all other adult teaching. This difference is seldom realized by those who have not tried it, although it may be apparent to many listeners who cannot diagnose the fault, and who merely switch off their sets. Some of these difficulties are probably inherent in the medium itself, while others are incidental to the present conditions of broadcasting.

From the lecturer's point of view, the incidental differences may at first sight seem remarkable. When he pays his first visit to Savoy Hill to arrange the details of his talk, he will find, if he has been accustomed to work in purely educational surroundings, an atmosphere which may strike him as exciting, comic, bewildering or uncongenial, according to his temperament. Sounds of an orchestra meet him on one floor, a musical comedy star may emerge from a rehearsal on the next, and people carrying jazz instruments may pass him on the stairs. He will probably be taken into a queer, draped studio to have a microphone test of his voice; he may discuss his plans in a room which will be very different from the ordinary study. Though the advice he receives may help him, his visit will be, to the average lecturer, at least a novel experience.

When he comes to prepare his talk he will find that he has to commit it beforehand to paper, that he must try to time it for exactly ten, fifteen or twenty minutes; that, if he is giving a course of lectures, he must keep strictly to the syllabus he has prepared some weeks before, and that he must be business-like in fixing up times and conditions, and in answering

correspondence. When the day comes for his first talk, he may find it incongruous and paralysing to hear, while he sits in the waiting-room, strains of light music coming from the loud-speaker, and to imagine his million listeners exclaiming impatiently when his own voice cuts the earlier entertainment short.

The psychological difficulties inherent in the very medium of broadcasting constitute, moreover, a further problem for the broadcast lecturer. He is addressing an unseen audience, vaster in size than any he has addressed before, and comprising, so far as he knows, people of all ages and of both sexes, of every degree of education and every variety of taste and interest. Not only can he not see his audience, but he cannot judge the effect of his words upon them. He has to get through his talk without the stimulus which a responsive audience supplies, and without any indications, such as shuffling feet and ill-timed coughs, to show that he must change his key or his tone if he is to hold his hearers. He has to remind himself that he is addressing not a corporate whole, but many individuals or small groups, sitting about informally in their homes or clubrooms; he must, therefore, remember that it is fatal to begin with a dull introductory paragraph, and that he should plunge at once into some arresting point of his talk if he is to seize his listeners' attention in the first thirty seconds.

We are indebted to Dr. Cyril Burt, who is himself a particularly successful broadcaster, for the following statement:

'So different are the conditions of ordinary teaching from those of speaking by wireless that experience in the former direction is not necessarily an asset. Whether he teaches at a university or at a school, the teacher too often develops mannerisms and an outlook, such as his regular students can usually discount, but which will often be a handicap in speaking to the ordinary radio audience. His experience of public speaking and of the needs of audiences may, indeed, be a help to him; but many of the best teachers come to rely so much upon the actual presence of an appreciative audience that they are apt to feel lost when sitting alone in a studio; they cease to talk, and

they begin to read. The man who can overcome this disadvantage best seems to be the teacher who has a special talent for visualizing the audience that he cannot see. Anyone, for example, who has watched Sir Walford Davies broadcasting is led to suspect that, for the moment, he forgets that he is at Savoy Hill, and feels himself actually in the distant classroom face to face with the boys and girls whom he is addressing. Other broadcasters are quick to say that when they find themselves alone in front of the microphone, they have a freezing feeling that they have come to a lecture-room and the audience has not turned up. (This experience seems less acute in the rarer and smaller studios of the B.B.C.). . . .

'More than teaching experience, I would emphasize a first-hand acquaintance with the audiences whom the broadcaster is likely to address. This acquaintance, however, should not necessarily amount to a professional habit; also, the speaker becomes too apt to depend on the stimulus of visible listeners, and to be guided from moment to moment by observing the expression on their faces.'

It will be evident from this sketch of the lecturer's difficulties that if he is to overcome them he must possess a quick imagination which can grasp the new conditions and the new possibilities, and that he must be able consequently to adapt his matter and his manner to fit the circumstances. He must, for instance, be able to speak in a personal way rather than in a rhetorical or declamatory style, and in making his talk simple he must avoid the danger of talking down to what he supposes to be the level of his hearers, and of talking so much in generalities as to produce an impression of vagueness and indefiniteness.

It is clear also that, since his voice is to be his only medium of expression and his listeners' hearing the only sense to which he can appeal, the possession of a suitable voice is all-important. He should use simple language, and enunciate carefully; the tone of his voice should be capable of successful transmission, and he should be able to vary it and modulate it in such a way as to avoid monotony.

The educational requirements of the broadcast teacher have been the subject of much discussion and of careful consideration. There are two common misconceptions of the



type of person who is suitable for adult education in general. It is sometimes felt, for instance, that a University can best discharge its responsibilities towards extension work if it selects a great academic celebrity, some prominent figure in the learned world, to give courses of lectures. On the other hand, there is sometimes a half-expressed conviction that for work of this kind the teacher or lecturer who has failed to get a better post will do quite well. It is scarcely necessary to point out that, while some great scholars are also great popularizers, others may be entirely devoid of this gift, and may consequently fail to establish any contact with their audience. With regard to the other extreme, the task of teaching the comparatively untaught obviously demands certain qualifications and gifts of a high order and of a special kind.

What is true of adult education in general is equally true of broadcast education. The wireless teacher should possess not only the special qualifications of an adult teacher, but also a variety of gifts which it is difficult to place in an order of importance. Witnesses have differed considerably in their opinions of what were the most important requirements. What can be said with certainty is that the speaker should possess a good voice, that it is useful in arousing interest and in inspiring confidence to have a well-known name and reputation, but that if he is to keep up the interest he must understand the technique of broadcasting as well as of teaching. In this connexion we endorse the opinion of Professor Burt:

‘The successful lecturer must possess the double gift of condensation and the talent for popularization—the power to pick out salient facts and compress them into a small compass, and then formulate them in simple and arresting language so that they will at once interest, and be understood by, a general public unaccustomed to formal speech. The broadcaster must be brief without being abstract; he must aim, not at putting the whole of his subject in a nutshell, but simply at offering an appetizer, stimulating interest rather than satisfying it. Just because the listener has nothing else to look at, the speaker must have the knack of calling up clear pictures, of exciting the imagination, of exploiting the power to visualize. He must, in a word, be concrete. What will be popular over the wireless may

differ greatly from what will be popular in a book, a newspaper, or a public auditorium. The man who can write a novel or an article that fascinates may be utterly tedious as a lecturer. Figures of speech that are pleasing in print may sound artificial and flowery when spoken; wit that is stimulating when read may seem vain or frigid when heard, just as humour that is delightful in conversation may seem trivial or foolish in the pages of a book. . . .

'These considerations would lead me to give a wide interpretation to the phrase "broadcasting technique", and to make such a technique a *sine qua non*. What are the most important elements in that technique, a psychologist can hardly decide *a priori*.

'Here, perhaps, I may limit myself to one or two main points. First of all, the broadcaster, though he appears to be lecturing, is actually reading. Now, many excellent lecturers are badly hampered by this requirement; they can speak naturally only if they are allowed to improvise as they go on. On the other hand, there are many lecturers who are comparative failures under ordinary conditions: when they speak extempore they stutter, hesitate, and repeat themselves; when they read their manuscript *in extenso* their utterance may perhaps become easier, yet their eye is glued to the desk, and so they lose their grip upon their hearers, because people cease to attend to a speaker who never seems to be attending to them. Yet, in the studio the same lecturers, with their notes in front of them, are able to talk with a fluent and yet perfectly convincing intonation; and no one troubles whether they are reading or not. The difference seems largely to reside in the trick of thinking out afresh the actual thoughts as one reads them, and assuming the spontaneity of a personal conversation with an imagined hearer at the other end. I imagine, therefore, that the technique of broadcasting is a far more teachable technique than the technique of ordinary public speaking.'

Experience has proved to the B.B.C. that lecturers, when once they recognize the existence of a special technique, welcome hints and advice, however considerable their experience in teaching and however eminent their qualifications. In the case of all the main talks and courses given from London, there is now almost a ritual of preparation for the prospective speaker. He is asked to come in the first instance for a microphone voice test, to make sure that the quality of voice is

suitable. The subject of the talk or series and the best approach to it are discussed with him. Advice is given in regard to speed, degree of loudness, variety of tone, and of style. He is given a leaflet of hints for speakers, and when he comes back for a rehearsal with the finished manuscript, he is asked to mark it, much as a pianist might mark his score, with reminders of a pause, emphasis, or change of voice.

On these points of production, Professor Burt makes some suggestive comments:

'The pauses between continuous sentences are quite as important as the average speed at which those sentences are delivered. One word in the sentence may often be missed for the moment by the listener. Hence, he likes a rather longer pause than would otherwise be necessary, because he has to reconstruct in his own mind the fragments from the context. Yet the breaks must never be too long. In the lecture hall the audience sees that the lecturer is still there—that he is pausing for effect, or to gather new inspiration. With mere mechanical reception, it is singularly disconcerting not to know how the speaker is filling the interval, and to be left wondering whether both he and the announcer may not have gone off and forgotten their audience. For the same reason, nervous hesitations, repetitions, stumblings, and the like, are infinitely more disturbing when the speaker is unseen, and so cannot eke out his meaning with a glance or a gesture. For comfortable listening, then, fluency seems all-important.

'The rate, of course, must vary with the subject and the literary style, and even with particular types of sentence. An actor or an ordinary lecturer has this advantage over the broadcaster—that he can watch his auditors, and note what the psychologist would call their reaction-time. He can pause while his point gets over the footlights, or until the audience has seized his joke and had its laugh. The broadcaster, on the other hand, may often commit the mistake of waiting too long, till the listener has the uneasy feeling that something may have gone wrong with the apparatus. Nor is it always realized that noises which would be inaudible in an ordinary hall are picked up by the microphone as readily as it picks up the speaker's voice; listeners are constantly distracted by the rustling of his notes and papers; irritated by his little sniffs; almost deafened by his coughs; and alarmed by the way in which he seems gasping for breath between every clause or sentence.'

There is one point not dealt with by Professor Burt which is important in most broadcast talks and essential in talks planned as a basis for discussion. The speaker, to rouse his listeners, must challenge them. He must as far as possible be provocative. The ideal educational broadcast talk is not so much the informative talk as the talk that leaves the listener ruminating or ready for an argument.

The special technique of broadcasting will have emerged from the substance of this chapter. But the unanimous opinion of witnesses goes to confirm the experience of the B.B.C. that personality remains the key to successful broadcasting. Broadcasting reveals with relentless clearness personality, or the lack of it; it seems mercilessly to exaggerate small mannerisms and affectations, a superior manner, an undue conceit; and it transmits faithfully, even through the sole medium of the voice, a sympathetic and friendly personality. It is clear, however, that sometimes the personality fails to 'get across' on account of circumstances which could be remedied by careful attention to the technique of broadcasting.

The B.B.C. has been fortunate in discovering several broadcast lecturers who, to a remarkable extent, possess most or all of the qualities of personality and teaching ability on which stress has been laid. It is largely due to them that the possibilities of broadcast education have been so vividly brought home to most of our witnesses, and it is they who have shown by their own experiments in method and technique, in what direction future development lies. As far as the future is concerned, we believe that increasing attention should be paid, in the choice of lecturers, to the all-important qualities of sympathy and imagination, to an ability to master the new method required, and to a readiness to co-operate to the full in any follow-up work that may be necessary.

## CHAPTER VII

## THE NEEDS OF THE MOMENT

IN the foregoing chapters a sketch has been given of the possibilities of broadcasting, and certain difficulties have been indicated. In this chapter some practical suggestions will be found which may enable these possibilities to be realized for the benefit of listeners.

It is clear that the chief issue is that of programme time. How is it going to be possible to translate into practice, not only the old watchword of B.B.C. policy, 'To please 75 per cent. of the listeners 75 per cent. of the time', but also the policy suggested in these pages of taking special steps to meet the particular needs of large sections of the public? These needs, as has been shown, can only be met for most listeners within the few leisure hours at the end of the day, when the pressure on programme space is already serious. What is the practical solution?

There is no doubt that the most satisfactory method of providing regular educational transmissions would be by devoting to this special service the whole, or the main part, of a special wave-length with a service area covering the whole country. The possibility of reserving Daventry 5XX for this purpose was fully discussed by the Committee, and this course would have been urged but for technical considerations which, so far as can be seen at present, seem to make the policy immediately impracticable. The Daventry long-wave station operates on the only wave-length which covers the whole British Isles, and for this very reason it may be required, even under the Regional Scheme, to supplement the ordinary stations for those areas which would otherwise not get good reception. If it should later become available, however, or if in the future a second wave-length with the

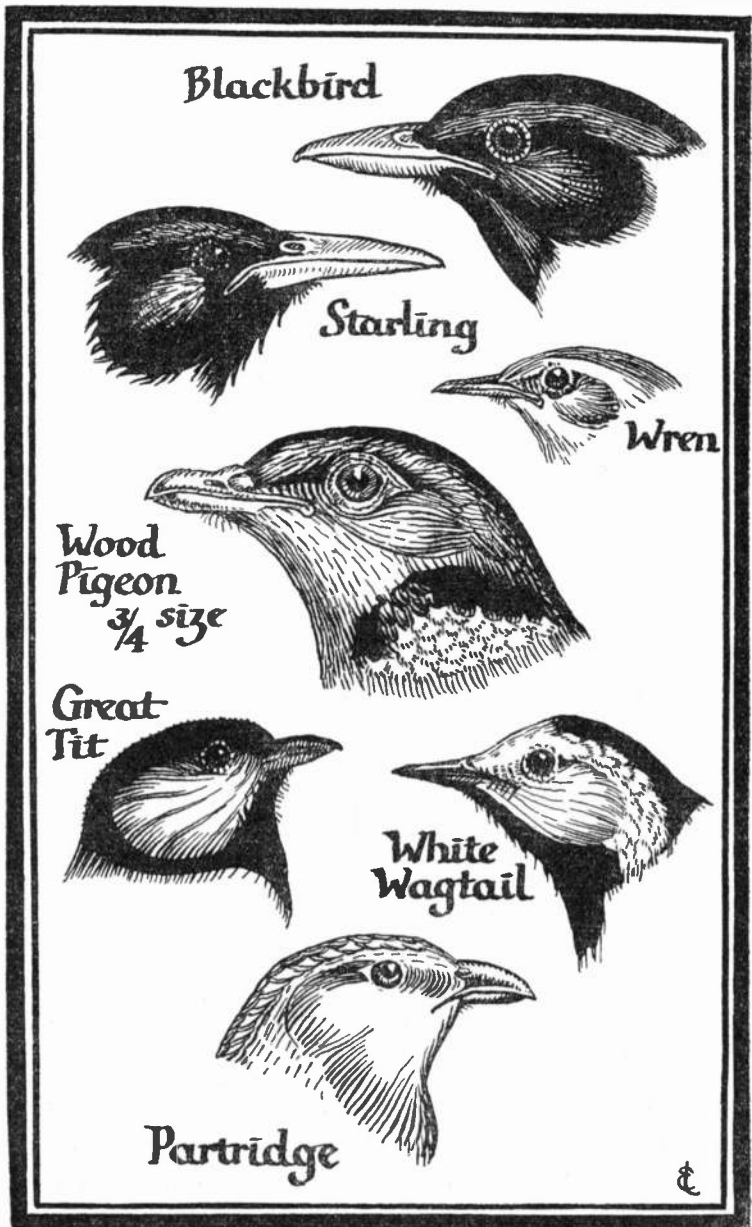


Illustration from a pamphlet issued in connexion with a series of talks on 'Familiar Birds and Beasts of the Countryside' by Sir William Beach-Thomas, K.B.E.

radius of 5XX should be allotted to this country, it would undoubtedly provide an infinitely greater opportunity than any other method for developing the service and for satisfying the largest variety of demands. Such a service could develop along its own lines programmes of music, plays and lectures planned as a coherent whole, and with a character of its own. The suggestion has so much to recommend it that we hope it may become possible.

Failing this special service, it seems essential that on the one hand certain definite hours should be allotted to formal adult education, and on the other, that a rough proportion of time should be set aside for the more general talks and readings of interest to the wider public with which this inquiry has also been concerned.

Taking first the hours for the student, we believe that as and when alternative programmes can be provided, the growing demand cannot in fairness be met without at least one hour daily, including Saturday, on one of the alternative wave-lengths, and that this hour could not, with any hope of success or of acceptability, begin before 7.30 p.m. In view of some dissatisfaction expressed by listeners who must take their main meal in the evening between 7 and 8, there should in any scheme of alternative programmes be regular talks on one wave-length two nights a week between 8 and 9, instead of between 7.30 and 8.30. This hour could be divided into such periods as experience may show to be best. In the light of evidence received, and of the opinions expressed to us, it would be difficult, with any justice, to suggest less in the way of programme time. There is also a growing demand for short lunch-hour talks some time between 1 and 2. Given the necessary co-operation with bodies of listeners, a short talk during this period might become a successful regular feature as soon as alternative programmes become practicable. Regular afternoon talks must obviously continue to find their place in broadcast programmes, and some of these might with advantage be extended to twenty minutes or half an hour. They reach not only a large number

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of shift workers in industrial areas, but could provide a basis of discussions, we are told, at many women's meetings and clubs. Here again, immediate experiment in close co-operation with organized bodies of listeners or potential listeners is essential.

When we turn to consider the talks with a more general appeal—the critical talks, and the varied range of literary, political, topical and travel talks—it is more difficult to make detailed recommendations, since these will naturally continue to find a place side by side with other popular programme items. We should deprecate any policy of transmitting general programmes without a proportion of time devoted to these talks. Indeed, when listeners have at their disposal a choice of programmes, the total amount of time devoted to talks and lectures of this kind will obviously need to be greater than at present, if a proper programme balance is to be maintained and if the many tastes indicated in Chapter II are to be suited. Without wishing to trespass on the function of the general programme builders, we would express the view that if useful experiments are to be made, more programme space will be needed. This is especially true of talks in regional programmes dealing with local interests.

The question of longer lectures is another side of the programme time problem. The popularity of debates lasting for an hour or more, and the appreciation of the experimental half-hour series on Daventry 5XX, seem to show that people can listen with pleasure, sometimes with greater pleasure, to a talk longer than the customary fifteen or twenty minutes. For example, the Warden of a Guildhouse in the West Country, reporting on a number of successful discussion groups during the autumn of 1927, says: 'Equally important was the length of the talks. No one felt that half an hour was too long, but several said that it did not seem worth while to "turn out" for a twenty minutes' talk . . . it was felt that a few half-hour talks were more valuable than many twenty-minute talks.' And the representative of a small discussion group of blind listeners writes: 'The real point . . . of my letter . . . was to



emphasize the superiority of a half-hour lecture over a short talk. It makes it worth while to forgather, and it further gives the lecturer a real chance. May we hope for more lectures of at least half an hour?' There is need, therefore, for constant experiment in length of talks, as well as in times of talks, the results being checked by carefully planned co-operation with listeners. The B.B.C. programme authorities have recently endeavoured to break new ground in this way, but the sympathetic co-operation of listeners, collectively and individually, is necessary if the best results are to be obtained.

Equally important is the development of broadcasting technique. The main features of this technique have been suggested in Chapter VI, but it can only be successfully taught and learned by means of hard work, and further experiment, on the part of the broadcasting staff and lecturers alike. The experience of the B.B.C. shows that even practised speakers are increasingly willing to 'go to school' in the studio, and that careful preparation and rehearsal almost invariably improve both matter and delivery.

But perhaps the chief need of the moment at the broadcasting end is increased organizing activity, and a development in publications and publicity. There is still widespread ignorance of the existence of educational broadcasting and of its possibilities. Broadcasting is a public service, the aim of which is to serve the interests and meet the needs of listeners as a whole. Much missionary work could be done to bring home to organizations and to institutions, as well as to individual listeners, the opportunities that are available. This means devoting time and staff to getting into touch with Local Education Authorities, voluntary associations, village clubs and institutes, young people's organizations, and any other agencies whose co-operation would be helpful. Much might also be done to stimulate and organize experiments in special areas. During the present pioneer period it seems inevitable that the B.B.C. should assist with advice on reception difficulties, and on the construction and maintenance of

sets for educational use.<sup>1</sup> Special help might be given to group-leaders, to members of voluntary organizations, and to those interested in the technical side, by means of short courses on how to make the best use of broadcast talks, how to organize broadcast discussion groups, and how to look after receiving sets.

Correspondence presents special problems, partly because it is difficult to control, partly because it may involve laborious sifting of unprofitable postbags. The B.B.C. programme correspondence at headquarters is enormous. Letters dealing with talks are sometimes sent spontaneously, sometimes at the invitation of the speaker. A considerable number of both types are merely concerned with small points of fact, or express the listener's disagreement or agreement with certain sentiments expressed. Some contain definite requests for names of books, or for information to enable the listener to follow up a talk that has interested him. It would be a mistake to foster the idea that the B.B.C. is a general inquiry bureau. But requests for advice and help in connexion with particular talks or series should, as far as possible, be encouraged and answered either by the speaker, or on lines approved by him. It will also be desirable to deal with some written work by students. If even a small amount of written work can be undertaken in connexion with a series of lectures, it greatly enhances their interest and increases their value. It should not be impossible to provide such services, even if only in an experimental form.

With regard to publications, the chief need is for earlier advance notices of forthcoming programmes of talks and lectures. Early publication is half the secret of success, and if notice could be given several months ahead, the broadcast lectures might find a place in the syllabuses of many clubs and societies. Effective distribution is partly the concern of the listener, and is dealt with later. But much could be done if the Post Office, Education Authorities, and other public bodies would allow these programmes, or posters drawing

<sup>1</sup> See Appendix A.

attention to them, to be exhibited in Post Offices, schools, libraries and other buildings. Departments of State already co-operate with the B.B.C. in arranging regular talks. There seems no reason why this co-operation with a Corporation established by Royal Charter should not be carried farther and extended to include educational publicity.

Reference has already been made to the possibility of an educational broadcasting journal. An attractive low-priced weekly paper, supplementing, or in some directions possibly superseding, the present separate Aids to Study pamphlets, and containing other material illustrative of programme matter, would be a valuable ally to broadcast talks and music. This type of supplementary publication needs to be seriously considered at the earliest opportunity.

But if the results of this inquiry point to steps that can be taken by the broadcasting authority, they point quite as clearly to the share which the listener must take if the broadcast service is to be fully developed. In the first place, he must realize that he can scarcely expect to get the greatest amount of enjoyment from the programmes unless he is willing to choose the items that appeal to him, and reserve the time to listen to them. Few people in search of recreation or enjoyment go to a theatre, concert, cinema or lecture hall without finding out first what they are likely to see or hear. The casual listener undoubtedly gets some benefit, for the appeal of the general programme is so wide that probably all listeners will be interested at one time or another by some part of what they hear. But the serious listener will find that he will get most from his set if he studies the programmes beforehand and plans his other engagements accordingly.

It is also clear that after many of the talks, the listener who is really interested in a subject will wish to discuss with his friends the questions raised by the lecturer, to read some of the books recommended, and perhaps to ask the lecturer for a criticism of any essay or statement he cares to send in. There are many persons with wireless sets who could and do make a practice of inviting two or three friends to join

them in their homes in listening to, and discussing, the series of talks given on a subject in which they are interested. The owner of such a set would perform a real service in extending hospitality of this sort to his friends, or to neighbours who have not the means of listening in their own homes. The chief characteristic of these fireside groups is their informality and homeliness, and this constitutes their chief value.

Where a group is established, the leader may wish for help in guiding the discussions. Here he can avail himself of the special pamphlets prepared as Aids to Study in connexion with all the main serial talks. The leader himself may wish to read something of the subject in advance and think out questions suitable for discussion, or topics on which the members of the group may like to express their opinions in writing. Arrangements might be made whereby anyone intending to form a group could, possibly on payment of a small registration fee, apply to the broadcasting authority for copies in bulk at reduced rates of the Aids to Study pamphlets, for advice on technical problems, and for instructions for dealing with written statements or questions for submission to the lecturer. Organized bodies, such as clubs, institutes, and co-operative societies, are already experimenting with group-listening, and further experiments might with advantage be planned in co-operation with them and with others.

Where an organization proposes to make use of broadcast talks, it will usually be necessary to install a loud-speaker. Receiving sets for this purpose are at present comparatively costly, but ways and means of acquiring them can be found; in particular, the system of gradual payments, or the method of co-operative purchase by two or three groups, may get over the difficulty. Where the organization has a suitable room of its own, the problem of accommodation is simple; where it has not, we hope that the authorities responsible for schools and other institutions possessing receiving sets may find it possible to make these available in the evenings for the use of suitable groups.

Many of these groups, however, are branches of national

organizations, on which a special responsibility will rest for the right development of educational broadcasting. There is no lack of evidence that, in the opinion of those most competent to judge, broadcasting, if properly used, can be an invaluable ally to these organizations. It can break new ground which it is difficult to break in any other way. But success depends on careful planning and active effort and co-operation. The time should soon come when every organization doing educational work will include the supply of copies of the Talks Programme to its members or students as part of its normal routine. We suggest that the local and national committees of such organizations should take serious account of broadcast education, and should lay before the broadcasting authority concrete suggestions for experimental courses. If it is found practicable to adopt these suggestions, the organization responsible for them should feel it its duty to make every effort to ensure that its members avail themselves of the opportunity presented, to organize the formation of groups with suitable group-leaders, and to report to the broadcasting authority as fully as possible the result of the experiment.

It is probable that at the conclusion of some of the broadcast courses, individuals or groups may want to carry on the study of the subject in which they have been interested. They may wish to start a course with their own lecturer or tutor, and to meet regularly over a period of weeks. If so, they will want to get into touch with bodies which can supply such facilities, and some machinery will need to be devised to provide for such transfers. This is discussed in the next chapter.

Apart from these separate discussion groups, there are ways in which the broadcast talks can be made of use to groups and students gathered for other purposes. For example, experiment in an Evening Institute has shown that listening to a twenty-minutes' foreign language talk can be successfully introduced into a two-hour language lesson. Broadcast talks can also be used to give variety and contrast to lectures given in the class-room. This ought to be particularly valuable in

many adult classes where students are depending upon a single tutor for guidance over a long period of time.

The fireside discussion group has been considered at some length, because discussion is one of the most interesting as well as one of the most profitable aids to studying a subject. Meeting once a week with other friends, moreover, makes it easier to listen regularly to a series of talks. But this does not mean that the individual may not equally enjoy and profit from a course of broadcast lectures, particularly if he is able to read some of the books recommended, and perhaps to meet other listeners later for discussion.

But when all is said, progress and development must depend on the nature and extent of the demand, and of its expression, whether through organizations, by correspondence, by resolutions at conferences and meetings, or through the columns of the national and local Press.

## CHAPTER VIII

## FUTURE ORGANIZATION

IF the task outlined in the last chapter is to be successfully undertaken, it will have to be recognized for what it is—an experiment in national education on a scale wider than anything yet attempted. This claim may sound exaggerated, but it has its justification in the far-reaching character of broadcasting, and in its capacity to put listeners in touch with the best teachers and thinkers of the day. How can this new force be harnessed to the general adult education movement? How can it best serve and supplement existing organizations?

Up to the present, the B.B.C. have not only taken the initiative in their educational work; they have also developed almost unaided the supplementary activities which have proved to be an essential part of broadcast education. We feel that the time has come when the educational forces of the country should be asked to share the responsibility for this work, and when those engaged in education, whether as administrators, as teachers, or as organized bodies of students or potential students, should be willing to take their part.

If talks and lectures are to be planned so as to take into account the requirements of large sections of listeners, close contact with them must be secured. It is not easy to take the measure of an unseen audience spread over England, Scotland, Wales and Northern Ireland. Relations with headquarter organizations are not enough; several thousand letters are not enough; the ballots of newspapers among their own readers, inquiries based on the investigations of energetic newspaper reporters, are not enough. Nothing short of some machinery for co-operation covering the whole ground is likely to provide a reliable index to what is wanted, or to secure for listeners the kind of help they want; and since

almost every man or woman is a member of some group, social, religious, economic, educational or occupational, this close co-operation can probably best be achieved through association with large organizations, national and local.<sup>1</sup>

Elaborate organization is not popular in this country. The qualities and possibilities of so new a medium, moreover, change almost from month to month, and it would be a mistake to formulate any hard and fast scheme which might endanger the fullest and freest expansion. Unified control has undoubtedly been one of the reasons for the successful and rapid development of broadcasting in this country. Nevertheless, when grown-up people seek education for themselves, they rightly ask for a share in choosing what form it shall take, and how it shall be given. The tradition of the adult education movement is a democratic one, and it has developed under conditions in which local interest and initiative have been given free play. This characteristic can be as useful to broadcasting as broadcasting can be to the adult education movement.

From the beginning, the B.B.C. have had the help of a National Education Advisory Committee, and of an Advisory Committee at each station, to whose valuable work a special tribute is due. They, however, will be the first to recognize that such committees can do little more than give general advice and put forward general suggestions at an annual or quarterly meeting. In the following pages, therefore, certain steps are proposed which may be taken in gradual stages, as the service develops, to secure, in the mutual interest of the broadcasting service and of adult education, machinery for joint action. This machinery would replace the present system of advisory committees.

<sup>1</sup> We believe that this will be a more reliable index to the opinion of the public than the individual voting system suggested in a scheme for a 'Wireless University', mentioned in the footnote on page 19. The experience of the B.B.C. in the matter of postcard votes is not conclusive.



At first sight it might appear that a clear-cut distinction could be drawn between the transmitting and the receiving end, and that while the B.B.C. should confine itself to the actual broadcasting of talks, debates, plays, and music, the other bodies should devote themselves to work at the listening end. The advantages of such a plan, however, are more apparent than real. On the one hand, if outside organizations are to make full use of broadcasting they will need to share in the planning of the more formal courses, to view for themselves the problems at the broadcasting end, and to draw upon the experience of the B.B.C. in broadcasting technique. On the other hand, if the B.B.C. educational staff is to retain its freshness of outlook and adaptability to new developments, as well as to draw upon the widest possible field for new broadcast speakers and lecturers, then the two sides of the work must be interwoven.

In the first place, therefore, we suggest the formation of a Central Council for Adult Education, constituted somewhat on the lines of the Adult Education Committee at the Board of Education. This Council should consist, first, of representatives appointed by important national bodies concerned with adult education, and, second, of representatives drawn from various areas of the United Kingdom, as described later. It should also comprise a proportion of nominated members, including some with broadcasting experience, qualified to speak with authority on special subjects such as music and drama, and on special interests not nationally organized, such as rural needs, international affairs, or industrial welfare. It should meet at regular intervals and should decide its own procedure.

The Council would be charged, first, with the responsibility of planning, with the assistance of the appropriate executive officers of the B.B.C., programmes for the hours allotted to them for formal adult education, subject only to compliance with the essential conditions of broadcasting (e.g. the terms of the Charter, limitations on subject-matter, questions of copyright, etc.). The Council would naturally

avail itself to the full of the experience of the B.B.C. executive officers. Final responsibility for the matter broadcast must legally rest with the B.B.C. The Council would also make, from time to time, recommendations to the B.B.C. programme authorities with reference to general programmes, and offer advice on special questions concerned with broadcast education in the widest sense.

The Council would further be charged with the duty of planning and distributing educational publications, including the proposed educational journal, and arrangements would need to be made with the B.B.C. publications department to make this possible.

The B.B.C. would gradually devolve upon the Council the responsibility for the organization, through the Area Councils described later, of group-listening, the training of leaders, and the giving of advice on reception difficulties, etc.

The Council would recommend for appointment by the B.B.C. such additional staff as would be required to carry out the various duties which the development of this special service would entail.

It is anticipated that the B.B.C., after consultation with the Council, would intimate to it each year the extent of the sum within the limits of which it might incur expenditure. It is hoped that, in addition to the sum thus available, the Council would be empowered to receive funds from other sources.

The number of interests which will need to be represented on this Council will inevitably render it a large one. Although it must meet regularly as a whole, it could only function effectively in any executive capacity by appointing sub-committees to deal with different aspects of its work. It might, for instance, be desirable to form sub-committees to consider the interests of particular sections of listeners. All sub-committees should have power to co-opt additional members with special experience of particular groups or subjects.<sup>1</sup>

<sup>1</sup>The question of school broadcasting is not within our terms of reference, but it will probably be found desirable to constitute also a Central Council for Schools, with a status equal and functions

But a Central Council meeting in London will obviously not be in a position to organize in detail a system which, to be effective, must deal with the problems of listeners in the whole of the United Kingdom and Northern Ireland. Some wider basis must be found, if the organization is to be both representative and efficient. The 'Regions' into which the country seems likely to fall under any B.B.C. Regional plan would correspond to no existing administrative units, and in any case would themselves be far too large to be a basis for organization. After considerable inquiry, we have come to the conclusion that local councils can best be based roughly on the areas into which the United Kingdom is now, in actual practice, divided for what is known as the extra-mural work of the Universities. This will probably mean the gradual creation by the Central Council of at least fourteen Area Councils, based on these already existing educational districts. One representative from each Area Council would serve on the Central Council.

It is undesirable at this stage to lay down the precise composition of these Area Councils, but we believe that, as with the Central Council, there should be a proportion of nominated as well as of elected members. The country is to-day covered with a patchwork of every variety of organization, some purely local, and the interest in adult education varies from district to district. In some areas successful experiments may be quickly tried, and the interest of public and voluntary bodies immediately aroused; in others, the response may be slower. The Central Council should, however,

similar to those of the Central Council for Adult Education. We are not in a position to make specific recommendations on its composition, but we believe that it should include a representative of the Board of Education, representatives of Local Education Authorities, and of the teaching profession, together with a proportion of nominated members with special qualifications and with experience in school broadcasting. Close co-operation between the broadcasting and the reception end has been shown, by the recent experiment in the Kent area in co-operation with the Kent Education Authority and the Carnegie United Kingdom Trustees, to be essential to success.

establish the requisite local machinery at the earliest possible date.

As the few large Regional stations take the place of the present numerous smaller stations, Regional conferences will become necessary. These would be attended by representatives from the various Area Councils in each Region, and by the B.B.C. Regional officers. Such conferences would advise on the educational or semi-educational matter in the programmes catering for Regional interests, and would discuss problems of organization at the reception end in each Region as a whole.

It is obvious that if help is to be provided for listeners on the scale suggested, and if additional supplementary work is to be undertaken at the broadcasting end, an immediate increase of staff both at headquarters and in the provinces will be essential. There will need to be an organizing staff to establish contact with listeners, and to attend conferences and arrange technical demonstrations; while an additional educational staff will be required to deal with written work and correspondence, to test the effectiveness of lectures at the listening end, and, as the work grows, to develop a fuller programme.

During the period in which the Councils are being established, there will still be need for continued inquiry and experiment. A small Interim Committee should therefore be maintained for the express purpose of assisting the B.B.C. to establish the new machinery. This committee would advise the B.B.C. on immediate questions connected with the composition and summoning of the Central Council, and would be prepared to make recommendations on adult educational questions, including publications, whenever it might seem desirable.

When, with the establishment of the complete Regional Scheme, alternative programmes are brought within the reach of the whole population of these islands, there will be available for education in the widest sense a service with unparalleled opportunities. Its right development will only be

possible if the best minds of the country, men and women commanding the widest respect and confidence, are able to make their contribution to it. It is not the function of this inquiry to look far into the future; but it is not impossible that a time may come when the service which is now in its infancy may grow to such dimensions that the B.B.C. will find greater devolution desirable and essential. It is difficult at this stage to say what form such a development might take; but it is probable that some National Board for Broadcast Education might be formed, under the ægis of the B.B.C., whose members would be persons of national reputation, and whose task it would be to develop the policy and the resources of the whole broadcast educational service, and to establish it as a permanent feature of national life.

## CHAPTER IX

## FINANCE

IF a service on the scale suggested in the preceding chapter is to become a reality, the problem of finance will need full and careful consideration. It should, moreover, be borne in mind that since the demand for such a provision is increasing, and since a considerable proportion of existing listeners wish for an improved educational service, it is not only sound policy but also just that the needs of such a service should be met.

The percentage of total revenue expenditure at present devoted to what may be described in the widest sense as education (including in this term the whole schools service, the general talks, and the special adult education service) is approximately 5·7 per annum. It is clear, in the light of the analysis of listeners given in Chapter II, that the proportion is by no means large. What the actual size of the demand may be, no one can say. The fact that, for the last term for which figures are available, the public interested enough to make use of follow-up pamphlets amounted to a quarter of a million, is some index to the size of the total. The present expenditure is, at any rate, small, and if the problem of organization at the reception end is to be solved, it must obviously be increased.

On January 1st, 1927, an agreement was made between the Postmaster-General and the newly created British Broadcasting Corporation, giving the B.B.C. permission for ten years to administer a broadcasting service within certain definite limitations. Under the financial provisions of this agreement, the Postmaster-General claims  $12\frac{1}{2}$  per cent. of the total amount received by him in respect of the licences, on account of the cost of collection and administration. But over and above this, a further percentage is taken from the sum which is left after this  $12\frac{1}{2}$  per cent. has been deducted,

on the following basis. From the first million licences, 10 per cent.; from the second million, 20 per cent.; from the third million, 30 per cent.; and from any larger number which may be reached, 40 per cent.

We have thus the very curious and unusual circumstance that, as the number of people to be catered for grows, and as the varying programme requirements become more complex, the income available does not increase in proportion. The only justification that could be found for such a progressive deduction from the naturally expanding revenue of the B.B.C. would be the assumption that there is a fixed amount necessary for the provision of a satisfactory broadcasting service. We have shown that this is emphatically not the case. Under the existing arrangement the amounts collected in licences, and the amounts disbursed to the B.B.C. and retained by the Post Office and Treasury, are shown in the following table. Column A gives the estimated figures for the year ending March 30th, 1928. Columns B, C and D show how the system would work as the number of licences increased.

	A	B	C	D
Date . . . . .	31. 3. 28 (Estimated)	31. 3. 29 (Hypothetical)	31. 3. 30 (Hypothetical)	31. 3 31 (Hypothetical)
No. of Licences at date . . . . .	2,500,000	3,000,000	3,500,000	4,000,000
	£	£	£	£
Total of Collections . . . . .	1,250,000	1,500,000	1,750,000	2,000,000
Payable to B.B.C. (based on previous year's March figures) . . . . .	824,340 (Actual)	896,875	1,050,000	1,181,250
12½ per cent. retained by Post Office . . . . .	156,250	187,500	218,750	250,000
Additional sum retained by Treasury . . . . .	269,410	415,625	481,250	568,750
G				

The sum retained by the State thus includes not only the 12½ per cent. of licence fees earmarked for the cost of collection and administration—a proportion which, on the face of it, seems high—but also, over and above this, a considerable sum equally derived from licence money, which goes to the Exchequer.

There is no desire to overlook the more purely recreational services of broadcasting, whose claims must receive due consideration. But this inquiry is particularly concerned with work which is of a general cultural and educational value to the nation as a whole. Its importance is such that its progressive development and improvement constitutes, in our opinion, a just claim on whatever net revenue from licences is left over after the cost of collection and administration has been met.

So long as broadcasting is regarded simply as a form of entertainment, there may be a case for a part of the net revenue being taken as equivalent to an Entertainments Tax; if this is so, it seems unreasonable to tax it at a rate which is so much higher than that applied to other forms of entertainment. In any event, even if this case is substantiated, the proportion to be retained on this account should be defined, and should not be an increasing proportion of additional revenue. If alternative programmes are to be developed as they should be, and if the essential supplementary services are to be provided, there must be a considerable increase in the budget of the B.B.C. Already there is need for increased expenditure on special educational experiments, additional organization, and increased staff, as well as on services connected with reception, including, for example, the work of advisory engineers. These claims of a growing national service can only be met by the release of licence money at present retained by the Treasury. In support of this argument may be cited the findings of the Crawford Committee, on whose recommendations the present constitution of the B.B.C. was based:

‘Subject thereto (i.e. to the indemnification of the Post Office for the cost of collecting licences and for all other expenditure



incurred by them in relation to the broadcasting service), it will be the duty of the Postmaster-General to pay to the Commissioners (i.e. Governors) from the licence fees an income thoroughly adequate to enable them to ensure the full and efficient maintenance and development of the service. On these conditions, and when the adequate service has been assured, but not until then, it is expedient that the surplus should be retained by the State. . . .'

There are certain directions in which Local Education Authorities may find it worth while to give assistance at the listening end, as certain of them already do in connexion with school broadcasting. For instance, in Glasgow sets have been constructed in the Technical Schools; Leeds is providing from its own staff technical advice on the use and maintenance of sets. We understand that six authorities give small money grants towards the cost of sets for schools. Many, including London and Stoke, pay the licence fees for school sets. The Lincoln Education Committee encourages schools to requisition apparatus through the Committee, and the Isle of Wight County Authority has secured substantial discounts from its regular contractors for school sets. The Kent Education Committee has been able to assist schools by making a special contract with a wireless firm, who agreed to construct apparatus at a reasonable price on the lines of the B.B.C.'s specifications for educational sets. Some authorities have thus given financial assistance, and it is hoped that their example will be followed by others.

It has been suggested that application should be made to the Board of Education for a grant in aid. While the cost of the great bulk of educational broadcasting, which is informal in character, should properly be met from the balance of licence fees at present retained by the Treasury, yet we believe that the more formal courses, which might secure the approval of the Board, would justify some such recognition.

We have dealt with the financial provision which we consider essential to the proper development of a broadcast educational service. During the pioneer period, such development will require experiments in special areas and for

special purposes. Educational trusts, and individuals interested in education, might well consider the desirability of assisting such experiments.

Throughout this book reference has been made to the supplementary services offered by the B.B.C. to those who care to make use of them. The present practice is to make a small charge for the pamphlets, and it has been suggested that a small additional charge might be made for individual help, such as the correction of written work. We believe this policy to be sound in principle, provided always that the charges are small and do not place these services beyond the reach of poorer listeners or groups.

To sum up, we are convinced that neither on the grounds of justice nor of expediency is it sound policy to reserve for general purposes of the State so large a proportion of listeners' licence fees, which, in our view, should properly be spent upon the development of a service, the value of which to the community is only beginning to be fully realized. We urge, therefore, that when, at the end of 1928, opportunity comes for the terms of the existing financial agreement to be revised, the present arrangement should be reconsidered in the light both of this inquiry and of the recommendations of the Crawford Committee.

## CHAPTER X

## CONCLUSIONS

FOR good or ill, broadcasting is bound to exert an incalculable influence on the development of civilization. The prophecies sometimes made that it would cease to interest people when it had ceased to be a novelty have mostly been made on the assumption that broadcasting held its own primarily as a means of light entertainment. This view ignores the potentialities which it also holds for raising the general level of culture, for spreading information and news, for reaching remote populations, and for the international and imperial exchange of programmes. Broadcasting, in short, is rapidly becoming so important a part of national and international life that, unless its place is taken by some new invention, it is likely to become one of the most powerful forces in the modern world.

Its dangers are obvious. Unless the highest standards are maintained, its pervasive influence may be a damaging one. Unless impartiality is carefully safeguarded, broadcasting may become a mere device for partisan propaganda. Without constant experiment and enterprise, without imagination and vision, it might tend to reduce public thinking and public taste to the dull level of the average. Without continual effort to stimulate the listener to play an active and not merely a passive part, the result of broadcasting might be to weaken individual thought and initiative, and blunt the critical faculty.

On the future of broadcasting, however, we are optimists, and, we believe, reasonable optimists. We have sufficient faith to believe that there will be that response which so great an opportunity must naturally call forth. Only so far

as men and women of the highest gifts in art, in music, in education, in leadership, are willing to do their share either as broadcasters or administrators, as intelligent listeners, or as sympathetic critics, can the nation benefit to the full from what the future holds in store.

The following summary embodies the main conclusions arrived at in the earlier chapters of this book. The fifteen points given below represent a general agreement on what seems to be feasible and desirable at the present stage:

### *Functions of Broadcasting*

1. The provision of recreation and entertainment has been, and still is, one of the main functions of the broadcasting service, and the signatories of the Report believe that this function should be extended and developed.

2. It is impossible, however, to draw a hard and fast line between recreation and education. To many, recreation may mean only the latest musical comedy or variety entertainment; to some it may mean the best music of yesterday or to-day; to others the sense of contact with the wider world. For a great many it also includes the general talks, debates and readings, which keep them in touch with current thought and affairs. This is, in fact, an important form of adult education.

### *Provision for Special Needs*

3. There is an impressive and a growing demand that broadcasting should provide facilities also for more specialized adult education. Apart from the actual demand, which is sufficiently large and important to constitute a legitimate claim on programme time, the fact that broadcasting is a public service strengthens the case for using it in the interests of national education.

4. The efficient development of a general educational service in the widest sense requires a close analysis of the audience and of the varying interests which it represents. A much larger proportion of listeners than is commonly supposed

have particular interests to which special items could make an appeal. The evidence shows that in addition to providing a general programme, broadcasting could provide talks which would be welcomed by large sections of the community having their own special interests, e.g. farmers, co-operators, housewives, young people, students, etc.

#### *Alternative Programmes*

5. Such provision is dependent for its full development on the policy of alternative programmes, which will give a choice of items to all or practically all listeners. Since alternative programmes can only become fully available when the scheme of Regional stations has been completed, it is important that this scheme should materialize with as little delay as possible.

#### *Place of Broadcasting in Adult Education*

6. The adult education movement, vigorous as it is, touches as yet only a small proportion of the population. Broadcasting, which is the latest agency to place itself at the disposal of this movement, can fill many of the existing gaps; it can widen the field from which students are drawn, by its power to reach and stimulate a large public; it can provide a means of education for those beyond the reach of other agencies; it can put listeners in touch with the leaders of thought and the chief experts in many subjects; and it can lead on to more formal or more intensive study. There is little danger that it will supplant other educational facilities, especially if the educational bodies take their share in its development.

#### *Discussion Groups*

7. Contact between mind and mind is a vital part of the educational process. Discussion groups, formal or informal, may very greatly increase the value to be obtained from broadcast talks. The leaders of such groups have an important part to play in stimulating discussion and formulating questions,

and it is desirable that every encouragement should be given to the formation of such groups, and all possible help provided. It is to be hoped that all educational organizations and institutions which have premises of their own will provide accommodation for group-listening, and will endeavour to raise funds for the purchase and installation of receiving sets. Much may be done in some localities by means of co-operative purchase by two or more bodies.

### *Supplementary Activities*

8. From the educational point of view, individual effort on the part of the listener is an essential factor. The follow-up policy inaugurated by the B.B.C. requires to be still further developed in three main directions:

*a.* In the direction of increased publications, including a weekly illustrated educational journal, to be planned and directed by those responsible for educational broadcasting.

*b.* In the direction of increased publicity. It is important that early and ample notice should be given of forthcoming lectures and other items capable of finding a place in the educational programmes of other bodies.

*c.* In the direction of increased organizing activity. An adequate follow-up service should include not only replies to correspondence, but also advice on technical difficulties, on reading and private study, on the formation of wireless discussion groups, on other facilities for further study.

### *Reception Problems*

9. The satisfactory solution of the problems of reception is of the highest importance. Only by raising the general standard of reception, and by securing the correct use and maintenance of receiving sets, can the fullest advantage be gained from broadcasting. This calls for a development of the service of visiting and advisory engineers to give advice and instruction to those responsible for sets for educational purposes. It

is also important that advice should be available on how to secure the efficient construction of sets to the B.B.C. specifications for educational purposes.

### *Subjects of Educational Broadcasting*

10. The broadcast programme requires the greatest freedom of experiment in matter and presentation. One important function is the expert presentation of new knowledge and new perspectives. On the other hand, it is essential that broadcast education should be closely related to the normal interests of the general public. Broadcasting should specialize in those subjects which show themselves to be most suited to this particular medium.

11. To cut out controversial subjects is to cut out all that is most stimulating and most important to men and women, both as individuals and as citizens. Strict care must be taken in choosing those who are to speak on such subjects at the microphone, but if those chosen have a proper sense of their responsibility they should have as full freedom as possible to deal with their subjects. The best way to handle many controversial subjects is from the educational standpoint, that is to say, by presenting a fair statement of the conflicting schools of thought. Debates and discussions between partisan speakers who can speak with authority are also valuable and effective methods.

### *Broadcasting Technique*

12. The technique of broadcasting equally requires continual experiment. The possession of personality, and the ability to convey it to an invisible audience, are of paramount importance, although the best results can only be obtained by developing to the full, as experience grows, the special teaching technique which is best suited to broadcasting.

### *Provision of Programme Time*

13. The most satisfactory method of providing a regular

educational service would be to set aside the whole or the main part of one wave-length capable of covering the whole country for a special service of lectures, music, etc. Until this proves practicable, a definite proportion of time in general programmes should be allotted to general talks, and certain periods at appropriate times of day should be allotted to more formal education. Under a system of alternative wave-lengths, the latter would require at least one hour daily after 7.30 p.m., in addition to talks at other times of day. We should deprecate any policy of transmitting general programmes without some proportion of talks. It is also essential that in any scheme for the reorganization or development of educational broadcasting arrangements should be made to allocate a certain proportion of time to local educational talks.

#### *Co-operation with Existing Educational Agencies*

14. In order to develop the policy outlined above, it will be necessary to invite the educational forces of the country to share the responsibility for the work. Without adequate machinery for co-operation, it is impossible to secure a reliable index to the educational requirements of various kinds of listeners, or to provide for them the help they need.

In our view, this calls for the creation of a Central Council for Adult Education, composed of representatives appointed by important educational bodies, and of a proportion of nominated members, to which certain powers and responsibilities in connexion with the planning of educational programmes and with the problems of listeners should progressively be delegated. It will be necessary also to establish Area Councils, based on the existing educational divisions for the Extra-Mural work of the Universities, to represent local opinion and to deal with local problems. A representative from each Area Council would sit on the Central Council. Until these Councils are in operation, a small Interim Committee should be maintained for the express purpose of assisting the B.B.C. to set up the machinery recommended and in the meantime to advise on adult educational activities.



*Finance*

15. The cost of such developments as have been outlined can, and in our view, should be met out of that part of the revenue from licences which is at present retained by the Postmaster-General over and above the costs of collection and administration. The findings of the Crawford Committee, on which the present constitution of the B.B.C. is based, did not envisage the retention of such funds by the State until an adequate service had been assured. In our opinion the efficient development of educational broadcasting must be regarded as an essential part of an adequate service.

(Signed)

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15th March, 1928.



## APPENDIX A

NOTES ON THE CHOICE AND USE  
OF CONSTRUCTED SETS*Introduction*

IT has been thought that some general advice on the choice, construction, and use of a wireless set for group-listening might be helpful, and these notes are written with those objects in view. Wireless is a new art, and it is impossible to deal with construction in so general a way that it will be intelligible to others than those with some technical qualifications. The first section of the notes, on the choice of a set, its construction and installation, is intended primarily for the local expert. In general, the non-technical user is advised to let well alone and to leave it to the expert if anything goes wrong.

The second section, devoted to the use of the set, has been made as simple as possible for the benefit of the non-technical reader.

## SECTION I

*Choice of set*

The choice of set is determined by the type of reception required (i.e. headphones or loud-speaker) and the circumstances and locality in which the set is to be used. The five receivers specially recommended for educational purposes, specifications of which can all be obtained free on application to the B.B.C., Savoy Hill, London, W.C.2, are as follows:

1. Crystal receiver capable of working six pairs of headphones up to the maximum ranges given in the table below.
2. 'D' type one-valve receiver capable of working six pairs of headphones.
3. 'A' type two-valve receiver (one detector and one low-frequency) capable of working thirty pairs of headphones or a small loud-speaker.

4. 'B' type three-valve receiver (one detector and two low-frequency) capable of working a medium-size loud-speaker.

5. 'C' type four-valve receiver (one high-frequency, one detector and two low-frequency) capable of working a medium-size loud-speaker at greater ranges than the 'B' type.

The maximum ranges at which good results can be guaranteed and at which interference of all kinds is negligible, and the approximate costs of the different receivers with accessories, are shown in the following table:

<i>Type of Receiver</i>	<i>Distance from main station</i>	<i>Distance<sup>1</sup> from relay station</i>	<i>Distance from Daventry</i>	<i>Cost including accessories</i>	<i>Cost excluding headphones or loud-speaker</i>
	<i>miles</i>	<i>miles</i>	<i>miles</i>	<i>£</i>	<i>£</i>
Crystal (with 6 headphones) . . . . .	4	1½	20	6	2
'D' (with 6 headphones) . . . . .	25	3	100	8	5
'A' (with 15 headphones) . . . . .	25	3	100	20	11
'A' (with small loud-speaker) . . . . .	5	2	30	14	11
'B' (with medium-size loud-speaker) . . . . .	15	3	80	22	16
'C' (with medium-size loud-speaker) . . . . .	35	3	150	24	18

Outside the ranges specified above, the interference may be such that it may seriously impair the reception of the station required; but this is not necessarily the case, and satisfactory results may frequently be obtainable at greater ranges. Speaking generally, slightly more strength is obtainable at

<sup>1</sup> These ranges are limited by interference from other stations working on the same wave-length.

night than during the day at a given range, but this is not due to any defect in the set. Provided the set has a sufficient factor of safety this should not be of great importance. The limits given above depend to a certain extent on local conditions. Normally, the figures should not be exceeded, and where a centre is situated nearly at the limit distance of one type of set and funds are available, it would be advisable to consider the installation of a receiver of the next larger type. The costs given above do not in any instance cover the cost of construction.

In the purchase of components or complete sets, educational authorities are generally allowed a complimentary discount of about ten per cent. by wireless manufacturers and wholesalers. If this discount is obtainable, then the costs given above would, of course, be reduced by that amount.

### *Construction*

This, as mentioned above, should be put in the hands of a local dealer or expert, or the advice of the B.C.C. should be sought. It is useless to expect the inexperienced to make a satisfactory set.

The following advice is given for the guidance of the maker:

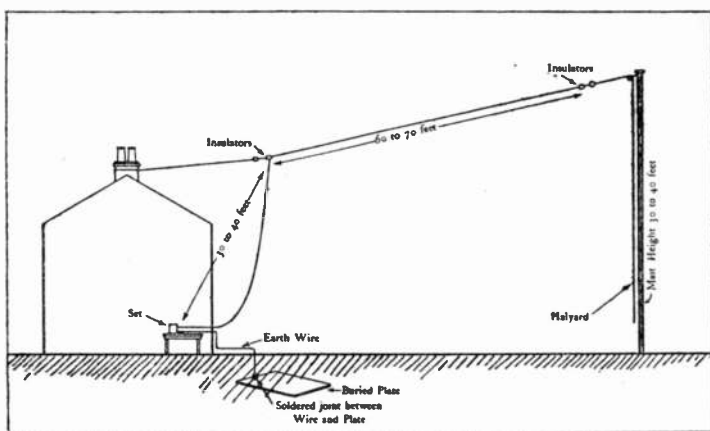
The specifications, which can be obtained from the B.B.C., give the list of components, a diagram of connexions and layout diagram for each type of set.

The general layout should follow the diagram, that is, each component associated particularly with each valve should be grouped around that valve. The valves themselves should be laid out from left to right, i.e. from aerial to output as in the diagram. Other components may be put where convenient, but long lengths of wiring should be avoided; particularly, wiring associated with grids and anodes of valves should be short. All joints must be well soldered, using non-acid flux. The panel may be wood (teak or mahogany) or best quality ebonite. The connecting wire should be No. 18-gauge tinned copper wire, sleeved where necessary with  $1\frac{1}{2}$  mm. systoflex.

In centres where one loud-speaker would give insufficient volume, some alteration to the set may be necessary in order that more than one loud-speaker may be used. In such cases details should be given and expert assistance obtained.

### Installation

Certain points should be noted. An efficient aerial is absolutely essential. To rely upon frame aerials or indoor aerials for consistently good reception is to prejudice the successful operation of the apparatus from the outset. The best arrangement is an inverted L-shaped single phosphor-bronze (not steel) wire aerial with a top 60 to 70 feet long, and a down-lead of 30 to 40 feet, in conjunction with an earth consisting of a copper or zinc plate about 3 feet square buried underneath the aerial lead-in, failing which a good electrical connexion to a main water-pipe should be made. If the plate is used, it should project two or three inches above the ground so that a soldered connexion may be made between it and the earth wire. It is essential that this advice about aerials should be carefully followed. It is no use making compromises, especially in the matter of the earth. There is a popular error that the aerial should point at the station from which signals



are being received. It does not matter which way the aerial points provided only it is kept as far away from trees, houses, telephone wires, tram wires, etc., as possible. The lead between the set and earth should be short and straight. An aerial-earth switch of the double-pole double-throw type should be used, the centre contacts being connected one to the aerial and one to the earth wire. The contacts at one end of the switch should be connected together by a short strip of wire or metal, and the contacts at the other end should be connected one to the aerial terminal and the other to the earth terminal of the set.

When connecting up the set for the first time, connect the L.T. battery first and see that all the valve filaments light before the H. T. battery is connected. If one uses the types of valves recommended and 150 volts H.T. on all the valves (this is the maximum voltage that ordinary valves will stand), the grid bias required will be approximately  $1\frac{1}{2}$  to 3 volts on the H.F. valve,  $1\frac{1}{2}$  to 6 volts on the detector,  $1\frac{1}{2}$  to 3 volts on the first L.F., and 12 to 15 on the second L.F. if it is a high-magnification 'power' valve, or 25 to 30 if low-magnification. These valves should be more minutely adjusted to give the best results. The H.T. voltage to the L.F. valves may with advantage be increased up to 200 volts to enable the set to give greater volume without distortion. The grid voltages must also be increased in proportion.

The acoustics of the room in which the set is to be used should be studied, and the best position selected for the loud-speaker. It is not easy to give specific advice on this point, but it is essential that a modern type of loud-speaker be employed, capable of dealing with the volume of sound which it is found necessary to produce. It must be remembered in this connexion that the voice of the speaker will not sound natural, and therefore cannot retain its personality, if it is produced at a very much greater or very much less volume than that which obtains in the studio.

If the loud-speaker is overloaded there will be a tendency for the voice to lose its timbre, its natural inflexion and its

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tonal qualities. For this reason it is inadvisable to attempt to reproduce a talk from one loud-speaker to a class of more than forty persons. If it is found desirable to make a broadcast programme audible to a hundred or more people in a large hall, two or more loud-speakers will be found necessary, at the sides of the hall about a quarter of the distance from the top end. The position of a single loud-speaker can only be determined after careful consideration of the acoustic properties of the room.

For open-air use, it will be found that much greater volume is required owing to the absence of walls and ceilings, which normally act as sound-reflecting surfaces. In general, therefore, it would be necessary in such cases to add at least one more stage of low-frequency amplification and use two or three loud-speakers instead of one.

#### *Use of the electric mains*

Mention should be made of the use of the electric light mains to replace one or all of the batteries. There are a number of satisfactory units that can be bought to eliminate the H.T. battery, but the unit becomes more complicated and more expensive if it is also required to eliminate the L.T. accumulator and grid battery. As most of the trouble that is likely to occur in maintenance will probably be due to the H.T. battery, the use of the supply mains may well be confined to the elimination of the H.T. dry battery. As the type of electric supply varies from place to place, it is impossible to standardize on one particular type of unit. If the local supply is D.C., then an H.T. unit would cost approximately £3 or £4, whereas if the supply is A.C., then the cost would be £6 to £8.

As there are certain precautions to be observed in the installation of these units, it is advisable to call in the assistance of the local expert before making a choice. Once installed, however, and working satisfactorily, the H.T. unit should give no trouble, and although the initial cost is high compared with that of an H.T. dry battery, the maintenance cost will



be much less, as the cost of the power taken from the mains is negligible, whereas the cost of renewing H.T. batteries is an appreciable item.

There is much to be said, therefore, in favour of a unit to eliminate the H.T. battery, and, if possible, the L.T. battery as well, and should the money be available, then the improved reliability and reduction in maintenance costs may be well worth while.

## SECTION II

### *The use of the set*

(a) *Low-tension accumulator.* The user of the set will be chiefly concerned with the accumulator charging. If the accumulator has been fully charged it should always last just the same number of hours after each charge unless it is getting very old. The length of time of discharge depends upon the number and type of valves used. The number of hours that the accumulator should last on one charge should be ascertained from the local expert. It is not a bad idea to have a card attached to the set whereon the times of use are written down, so that a check may be kept upon the battery-charging.

Two accumulators preferably are kept, one in use, and one as a stand-by. When one runs down, i.e. when the valves burn dimly and the strength of the loud-speaker gets less, the other should be used, while the first should *at once* be sent away for charging. This discharged condition should be anticipated, as harm may be done by allowing the accumulator to run completely down. A rough test of the state of an accumulator may be effected by testing the voltage of each cell whilst the accumulator is being used. The voltage of each 2-volt cell should not be allowed to drop below 1.8 volts.

In disconnecting the used accumulator from the set, it will be seen that there is one red terminal and one black terminal. The red wire should be connected to the red terminal, and the black wire to the black, and when connecting up the new

accumulator, this process should be repeated. It is bad for an accumulator to be left uncharged for long. If the set is not going to be used for a month, the accumulators should be left charged. If the set is going to be out of use for a longer period than a month, the acid should be emptied out, after the accumulator has been fully charged, and distilled water should replace the acid. When the accumulator is wanted again, the proper solution of acid should be substituted for the distilled water and a fresh charge given, when the accumulator will again be ready for use. It is suggested that the local expert will best perform these duties, but other supervision may sometimes be necessary.

(b) *High-tension battery.* A dry H.T. (high-tension) battery cannot be recharged. It is usually in the form of a large black box with a number of little holes into which fit red or black plugs. If there is any doubt about which is the L.T. (low-tension) battery and which the H.T. battery, it would be as well to consult the person who has installed the set in order that there should be no mistake. The H.T. battery should last from four to six months for normal usage. The set usually gets weaker and weaker after this time, even though the accumulator is charged and the valves properly alight, as the H.T. battery starts failing.

(c) *Grid battery.* The non-technical person should not worry about the grid battery, but when renewing the H.T. battery should see that the grid battery (which is probably inside the set and which looks like a little high-tension battery) is renewed too.

(d) *Valves.* It is most important that the filament voltage (that is, the voltage of the low-tension accumulator) should not be greater than that stated on the valve or the valve box. If carefully treated, valves will last for years. They should not be removed from their holders unnecessarily.

(e) *Hints on tuning-in.* The word 'tuning-in' means making the best adjustments on the set to get intelligible speech or pleasant music. There may be several knobs on the set for

making these adjustments, but the user is advised, as normally he will be listening to one station only, to take a careful note of all the settings as they have been left by the installing engineer, and not to readjust these unnecessarily. The set may be located at the point where the service areas of two stations overlap; in such cases it would be possible for the set to receive two stations satisfactorily instead of one, but generally speaking it will be found that the reception of one station is to be preferred, and the set should be adjusted to receive that station. In order that these adjustments may not be disturbed, it is not advisable to attempt to receive different stations.

When tuning the set, the reaction coupling should be as loose as possible, that is to say, the movable coil which is mounted in the adjustable coil-holder should be brought no closer to the fixed coils than is absolutely necessary. Excessive reaction not only tends to produce distortion, but may cause the receiver to break into oscillation, thus energizing the aerial and interfering with neighbouring sets. If it is found that in order to obtain sufficient volume from the set it is necessary to use a considerable amount of reaction, that is, to have the two coils very close together, this is an indication that the set has not a sufficient factor of safety, and that it is therefore inadequate in respect of the transmissions for which it is intended.<sup>1</sup>

Set 'C' is provided with a volume control. If, when the set is properly tuned, the volume given is too great, then this may be reduced by adjustment of the volume control. In no case should the volume be reduced by de-tuning. The crystal set and sets 'A' and 'B' are not fitted with any type of volume control, because it is probable that they will be worked to their capacity wherever they are situated.

Beyond renewing accumulators and, at long intervals, the H.T. battery, the unskilled user should have no need to make any adjustments whatsoever.

<sup>1</sup> A pamphlet dealing with the causes and prevention of oscillation may be obtained free of charge on application to the B.B.C., Savoy Hill, W.C.2.

(f) *Tracing of faults.* The tracing of faults should certainly be left to the expert. There are many handbooks on the subject of fault tracing, but it is strongly advised that any serious trouble of this sort should be referred either to the maker of the set, or his local agent, or by correspondence to the B.B.C.

Simple faults, however, can often be cured by the user himself. For example, crackles may be produced by loose connexions to low- and high-tension batteries, loose grid-battery plugs, bad aerial insulation, or dust and dirt on the set. A badly run-down high-tension battery may also give rise to the same trouble.<sup>1</sup>

<sup>1</sup> A chart giving hints on maintenance, suitable for hanging up near the set, may be obtained free of charge on application to the B.B.C., Savoy Hill, W.C.2.

## APPENDIX B

EDUCATIONAL BROADCASTING IN  
OTHER COUNTRIES

IN the brief summary here given of experiments in other countries, no attempt has been made to cover the whole ground or to do more than give an indication of the types of educational matter broadcast.

Taking European programmes as a whole, it may be said that in most of them there are talks during the day-time, either of an educational or practical kind, and that in all of them there are talks both in the early evening, immediately after business hours, and in the later evening. In most cases talks last for half an hour; there are comparatively few parallels, except in America, to the short British talks. For example, from Oslo (Norway) there is usually a language lesson from 6.30 to 7.0 p.m., a talk from 7.0 to 7.30 p.m., a talk or reading from 8.30 to 9.0 p.m., and at 9.15 often a topical talk. In Italy there is usually a language lesson from 7.0 p.m. to 7.30 or 7.50, and a topical talk later. A Spanish programme shows a half-hour music talk at 8.30, a language lesson at 9.30, and a legal talk at 9.45. In Germany, most stations broadcast language talks, talks for parents or for housewives in the mornings, and educational talks or talks on business and civics between 6 and 7 or 7.30. A typical Hamburg programme shows a language talk at 10 a.m., another talk at 4, another at 5.30, another at 6, a sports talk at 6.30, and a topical talk from 9 to 9.30.

By far the most important attempts outside Great Britain to utilize wireless in the service of education have been made in Berlin, by the organization known as the 'German Wave' (Deutsche Welle). In Germany, the Central Institution for Instruction, a semi-official body, have, under the name of

'Deutsche Welle', transmitted from the Koenigswusterhausen station courses in English, French and Spanish, Stenography, Economics, Literature, Law, Hygiene, Agriculture, etc. Each talk usually lasts for 30 minutes, and series of lectures are given weekly between the hours of 1.10 p.m. and 5.30 p.m. An analysis of the lecture programme in 1927 shows that the programme was divided into two classes, vocational instruction and general instruction, the first class constituting 66 per cent. of the whole and the latter 34 per cent. Lectures on languages and kindred subjects (58 per cent.) formed the largest section in the vocational lectures, the next largest being Lectures for the Housewife with 9 per cent. The general lectures were more evenly divided, Nature Study coming first with 18 per cent. and Literature and Music following with 17.8 per cent. and 10.2 per cent. Other subjects in this class were History, Politics, Teaching, Technology, Religion and Philosophy. An educational paper called the *Deutsche Welle Funk*, containing the text of selected talks and well-produced illustrations, is printed to supplement the broadcast service. There is nothing similar, however, to the B.B.C. follow-up pamphlets.

In Austria, there is a very close link between the broadcasting company 'Ravag' and the Vienna Society for Popular Education. Languages, Music and Scientific Agriculture are the outstanding features in regular broadcast education here. An interesting accompaniment of the system in Austria is the printing of illustrations, diagrams and notes in the station's programme paper *Radio Wien*, eight pages weekly being given to this directly illustrative matter. In Vienna there is a system of lending to private subscribers at a very cheap rate lanterns and paper films, whereby small audiences can see pictures illustrating the talk. This system, however, is not very satisfactorily reported on.

In France there has been an elaborate scheme of adult education from the Eiffel Tower station, which broadcasts educational talks every evening from 8.30 to 10.30. The Committee of Control of the 'Sorbonne Radio College' contains

many important and impressive names. It is presided over by Monsieur Raymond Poincaré. In practice, however, it seems that the scheme is scarcely functioning, since the broadcasting system in France is in a state of transition.

In the United States broadcast talks appear in the programmes of all stations, but a large proportion seem to be of a journalistic or advertising kind. The 'Extension Divisions' of a considerable number of American universities, however, make use of broadcast courses, not 'for credit' (i.e. not counting for degree purposes) but as a supplement to correspondence study. Twenty-seven universities and colleges, mainly in the Middle-West and East, make use of regular courses, and twenty-one make occasional use of broadcasting. The subjects dealt with appear to be cultural and professional, as well as technical (chiefly agriculture) and such topics as citizenship.

Mexico sets aside a special station (C.Z.E.) for general cultural and educational broadcasting. Daily short lectures are given on most subjects ordinarily found in a curriculum, while special courses are given on such subjects as bee-keeping, horticulture and domestic science. Courses are broadcast for the benefit of primary and normal school teachers, to enable them to graduate without coming to study in the capital. Other regular series include talks on hygiene, infant welfare, military training, foreign languages, transport and traffic. The debates of the legislature are also broadcast in full every night from this station.

## APPENDIX C

BROADCASTING AND ADOLESCENT  
EDUCATION

A LARGE proportion of the children of this country lose, at fourteen, the discipline and influence of the schools. They pass into industry or unemployment and are left very largely to fend for themselves, both with regard to work and to the use of leisure hours. It has long been recognized that influence and environment in many homes are not of a kind to provide adequately for the growing interests and instincts of children of this age. As a result, a great body of voluntary organizations has arisen to cope with this problem, and to provide in clubs and institutes some form of healthy recreation, some further scope for the development of mind and character among adolescents. The only strictly educational influences are provided in the continuation schools, evening institutes, and technical schools of the Local Education Authorities; but if education be taken in the wider sense of a training for life, the work of clubs and adolescent organizations in general must be seriously considered as a contribution of value towards the solution of the problem. But the voluntary nature of these organizations inevitably involves difficulties in the provision of buildings, equipment, and helpers for the work. Even the best organized clubs recognize that they are limited in the extent of their work, and inquiry has brought to light the fact that there is a very general demand for co-operation with the B.B.C. to provide for the development of club programmes and the intensification of education in the most liberal sense of that word, both for boys and girls.

At the annual Conference of the Juvenile Organizations Committee at the Board of Education in 1927, presided over by the Duchess of Atholl, a resolution was passed welcoming inquiry into the possibilities of wireless educational assistance



in club work, and the project of a few experimental talks provided especially for younger listeners received a warm welcome.

Similarly, the Chief Scout, Sir Robert Baden Powell, stated his view that 'broadcasting had a big possibility if it took the line of helping education by filling in omissions in the ordinary and elementary school curriculum and preparing the boy for life rather than for passing exams.'

A series of talks in April and June 1928, planned especially for reception by younger listeners, has received the approval of the following national organizations which are actively co-operating to ensure the success of their reception :

Juvenile Organizations Committee, Board of Education,  
Industrial Welfare Society,  
Scouts' Association,  
Girl Guides' Association,  
Y.M.C.A.,  
National Association of Boys' Clubs,  
National Council of Girls' Clubs,  
National Council of Social Service,  
Residential Settlements Association.

Many local organizations have similarly offered to co-operate, and the Scottish National Council of Juvenile Organizations has arranged for a circular to be sent to all its affiliated bodies, encouraging them to consider the possible developments of wireless broadcasts in the interest of adolescent listeners. But apart from all organizations there remains that majority among the boys and girls of this country who come within the influence of neither club nor institute, and who continue to fend for themselves in the discovery of pastimes and interests to satisfy a restlessness of mind typical of adolescent development. Experience shows that in spite of the efforts of local voluntary organizations, a large majority remain outside their range of influence.

A recent Government report has drawn attention to the

urgency of providing more adequately for children after the school-leaving age. It would appear that the broadcasting authorities have here a great opportunity to contribute to the solution of a problem of national importance. They have at their disposal an unrivalled medium for influencing the younger generation, both in and out of clubs. They command a choice of speakers which local organizations, through geographical and financial considerations, are prevented from enjoying.

In rural areas particularly the need is great. The isolation of the countryside makes it doubly difficult to bring to the younger generation the influence of the best minds, and the facilities for education provided in the towns. The activity of one Rural Community Council shows the demand which already exists in country districts. A demonstration wireless set used to be taken round to show the interesting matter provided in broadcast programmes. These demonstrations have since become unnecessary, because the installation of sets in cottage homes has since become so common. The original demonstration set in this particular county was bought by a village boys' club.

The immediate response of the bodies already mentioned to the first tentative wireless experiments in adolescent education is sufficient evidence of the existence of a widespread need and of a great opportunity. When in one area, the importance of the talks is so much felt that arrangements have been made for the accommodation in two or three central halls of all those youngsters who, in their clubs, have no wireless equipment; when again the Chairman of an important society provides for the installation of wireless sets in all the clubs and institutes of his particular association for the reception of these adolescent talks, it is clear that this new experiment is not a mere speculative venture, but a constructive piece of social service. It is much to be hoped that further experiments will be undertaken, and that machinery for efficient co-operation with organizations at the reception end will be established.

## APPENDIX D

EVIDENCE was given, and Memoranda submitted by the following:

## I. MEMORANDA AND EVIDENCE

Association of Tutorial Class Tutors (now Tutors' Association) (Representatives: Mr. D. A. Ross and Mr. C. E. M. Joad).

Co-operative Union (Representative: Professor F. Hall).

Educational Institute of Scotland (Representative: Dr. James Steel).

Library Association (Representative: Mr. Frank Pacy).

Ministry of Agriculture (Representative: Mr. J. G. Dallinger).

National Council of Girls' Clubs (Representatives: Miss A. C. Dobbs and Miss Brodrigan).

National Union of Teachers (Representatives: Mr. W. Merrick, Alderman E. J. Sainsbury, Mr. J. H. Lumby, and Mr. G. S. M. Ellis).

Wireless League (Representatives: Mr. A. E. Parnell and Mr. D. Richards).

Workers' Educational Association (Representative: Mr. G. D. H. Cole).

Young Men's Christian Association (Representative: Mr. Z. F. Willis).

Professor P. J. Noël Baker (Cassel Professor of International Relations in the University of London).

Miss M. Browning (County Librarian, Warwickshire).

Professor Cyril Burt (Psychologist to the London County Council, Education Department).

Mr. J. H. Nicholson (Director of Extra-Mural Studies, Bristol University).

Mr. Eric Paterson (Director of Extra-Mural Studies, University College, Exeter).

Mr. J. E. Phillips (Principal of Rochester Technical Institute).

## II. EVIDENCE ONLY

Central Library for Students (Representative: Colonel Newton).

National Federation of Women's Institutes (Representative: Miss Parks, South Leverton Branch).

Universities' Extra-Mural Consultative Committee (Representative: Dr. D. H. S. Cranage).

Admiral C. D. Carpendale (Controller, B.B.C.) on International Broadcasting.

Captain P. P. Eckersley (Chief Engineer, B.B.C.) on Technical Problems.

Mr. T. Lochhead (Chief Accountant, B.B.C.) on Finance.

Mr. R. J. F. Howgill (Copyright Section, B.B.C.) on Copyright and Re-diffusion.

Mr. H. L. Fletcher (School Engineers' Section, B.B.C.) on Reception Problems.

## III. MEMORANDA ONLY

British Social Hygiene Council.

Educational Settlements Association.

League of Nations Union (Education Committee).

Miners' Welfare Committee.

Ministry of Health.

Mothers' Union.

National Book Council.

Viscount Cecil of Chelwood.

Professor T. H. Pear (Professor of Psychology, University of Manchester).

Mr. J. S. M. Thomson (Educational Secretary, Scottish National Council, Y.M.C.A.).



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