

Broadcasting and Education

By

J. Howard Whitehouse

Published for the
Society for Research in Education
by Humphrey Milford
Oxford University Press
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THIS book on
Broadcasting and Education
is issued with the approval of
the Council of the Society
for Research in
Education

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To
Sir Oliver Lodge

Teacher, scientist, seer,
whose pioneer labours and discoveries
with those of others revealed the secrets
which made broadcasting possible,
with the homage of
the Author

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I. The Opportunity

THIS little book is intended to invite general consideration to the question of broadcasting in relation to education. A Royal Commission set up to consider the general question of the control and development of broadcasting in this country has recently reported. The main suggestions contained herein were prepared for submission to the Royal Commission, but no opportunity was given for this to be done. They are now issued in an extended form, in view of the importance of the subject and its comparative neglect both in the report of the Commission and in the public discussions which have taken place.

Broadcasting is still in its infancy. So far we have been feeling our way towards the best methods of using it, and with every experiment new possibilities are seen. I propose, not to examine the general problem of broadcasting but to confine myself mainly to its possibilities in education, and to submit an outline scheme for what would be practically a new department of the B.B.C. and would affect every phase of education, from the humblest village school to the greatest public school and the universities.

Let me at once acknowledge that much excellent work for education has already been done by the B.B.C. Many of their broadcasts for schools have

The Opportunity

been well devised and of great interest and use. The Corporation has also shown a willingness to experiment and advance. It would, however, be true to say that in any comparative estimate of the activities of broadcasting as a national institution to-day the exclusively educational part is relatively small. Educational broadcasting proper is only just beginning.

The proposal is set forth in these pages that educational broadcasting should not form part of the ordinary work of the B.B.C. The latter would continue to be the supreme and also the coordinating authority, but the practical detailed work of school broadcasting, with all the planning which this means, and the working out of such schemes as are now set forth, should be handed over to a representative educational council. In later pages I have considered how such a council could be formed, and how, by the machinery suggested, all branches of education could be considered and their special needs met.

It should be noted, that whilst some aspects of school broadcasting would be applicable to all schools, there would be special needs to be met for the many diverse types of schools which are included in our educational system. These matters are examined in some detail.

An important part of the scheme as a whole, as developed in the following chapters, is the creation of a separate education station on its own wave-length.

The Opportunity

By the provision of such a station the Government has an opportunity of making a great advance in education and of taking a step which will attach the greatest scientific discovery of all time to the service of the young. An attempt is made to justify this statement.

The authorities of the B.B.C. will, the author trusts, recognize in the writer not a hostile critic but one who, from the world of education, is desirous of offering constructive help in extending the use of the greatest discovery in the modern world.

2. An Education Station

THIS book is an attempt to consider ways of making broadcasting an organized force in education. One appeal must immediately be made. It is that educational broadcasting should not be sandwiched between the general items of the programmes, but that, as stated in the introductory chapter, it should have its separate station with its own wave-length. There should be a continuous programme from 9 o'clock in the morning to such time in the evening as might be found necessary. A development of this character would also have a highly beneficial effect upon the programmes of the National, Regional, and other stations. It would give the B.B.C. much more time for its own programmes and their extension and development. Many of the items on the educational programme would be of general interest, and could be listened to by the ordinary public of the B.B.C. I have made some inquiries as to whether any technical difficulties exist in the establishment of a station for school broadcasting. I am assured that there are no difficulties which cannot be removed.

The main reasons why an educational station is a necessity under any adequate system of educational broadcasting are set forth or are to be inferred from

An Education Station

the proposals made later. It may be convenient to summarize them:

1. The needs of this aspect of broadcasting are too vast to be met under the old system of items included in the general programmes.

2. These needs are the greater because it is necessary to care for young audiences differing widely in age, understanding, and environment.

3. These audiences include public schools, secondary day schools, elementary schools, girls' schools, continuation schools, country schools, town schools, technical, trade, and art schools, colleges, and universities.

4. Broadcasting would never supersede personal teaching but only supplement it.

5. It is not suggested or contemplated that any one school would use broadcasting continuously or even frequently on any one day. There should be careful and limited selection based on the needs of the school.

6. Many subjects, such as music, which now form a great part of the ordinary programmes would be dealt with also in the educational programme, but in a way suitable for the needs of the special audiences.

7. The organization of plays, lectures, or other events in schools could be broadcast to other schools.

8. Research work at one university could be broadcast to other universities.

An Education Station

9. Foreign broadcasts could be a permanent feature of school broadcasting.

10. There could be a daily broadcast of news presented as to subject and manner in a way suitable for schools.

I have purposely omitted any discussion on finance. It is not possible, and, indeed, it would be scarcely relevant, to discuss that question now. This, however, may be said. The B.B.C. has a monopoly of broadcasting; it has an income which runs into millions of pounds, and this constantly increases. If the proposals recently made by the Royal Commission dealing with finance are carried out it will have a vastly augmented income in the near future. For my own part, I believe that, once the possibilities of school broadcasting are realized, no Government would like the success of the system to be interfered with by any question of finance.

3. The Place of the Teacher

LET me anticipate one possible objection by stating that I am not so foolish as to think that a broadcast can replace a teacher. That would be a fatal fallacy. The presence of the master or mistress would always be necessary. They would deal with points of difficulty, they would correct notes, lead a discussion, and could help in many other ways. Their influence would be increased.

The broadcast talks should not ordinarily exceed say twenty minutes. The remainder of the school period would be for the writing up of notes and informal discussion on what had been heard. During this period, too, the master or mistress could clear up individual difficulties and help to a fuller understanding of what had been heard.

It would be essential to provide for full co-operation between teachers and those responsible for educational broadcasting. Probably the most efficient way of securing this would be for teachers responsible for certain subjects (e.g. history masters, science masters) to be able to get into direct communication with the broadcasting committee responsible for the arrangements in their particular subject. On these committees it would follow that the teachers engaged upon the practical work of the subject would be fully represented.

The Place of the Teacher

Let me give one other instance of the vital help which teachers could render in connexion with any scheme of educational broadcasting. I have shown elsewhere that it would be necessary to have adequate literature in the form of text-books and pamphlets. It would also be necessary to have in some subjects, especially art, illustrations and reproductions. There would be constant need for the advice and co-operation of teachers in this connexion. The national service of education would be greatly strengthened by new opportunities for the pooling of knowledge and experience.

One of the first publications which the general committee for educational broadcasting should consider would be a weekly paper dealing with all these new activities of broadcasting, giving illustrations, and reporting talks. Such a paper should also be an open forum for the discussion of all problems arising. This proposal is discussed later.

Two points arise affecting teachers for consideration in connexion with necessary books and illustrations to supplement broadcasting. Special sections in libraries should be formed as a broadcasting section. A library of illustrations should be organized on a systematic basis.

I should like to touch upon one other aspect of the influence of the teacher in connexion with broadcasting. A great opportunity now arises of helping to solve the great problem of the use of leisure.

The Place of the Teacher

Alike in country and in town schools it should be possible to organize groups of adolescents in the early evenings to take part in the interest and entertainment possible through schemes of wisely planned broadcasting. It would be possible to go much farther, and to associate many schemes of hobbies, handicrafts, reading, and outdoor interests with broadcasting. Societies and clubs could be based upon some departments of broadcasting.

It would not be unreasonable to ask the President of the Board of Education to institute an inquiry into the possibilities of co-operation by the Board in developing this aspect of educational broadcasting.

It should be added here that no suggestion is intended to be made that teachers already overworked in many elementary and other schools should have new demands made upon their time. The suggestions now made really mean an adequate expansion of the education services.

Other problems arise which affect the teacher. A special broadcasting room whenever possible would be very desirable. An efficient receiving set should be available at a reasonable price. There should be an expeditious and easy method by which schools could receive expert advice and help in the efficient maintenance of the system.

4. The Machinery of Control: the General Council

THE machinery of the control of school broadcasting, though requiring detailed examination and discussion, does not present serious difficulties, if sincerity and goodwill are present. I examine this question and make the following tentative suggestions on the basis that the final authority would be the B.B.C. That body would, however, delegate the detailed work to a separate department, the nucleus of which is in existence, though in a small and modest way.

1. I start with the general council for school broadcasting. We need not be afraid of this being a large body, seeing that it will be split up into committees each controlling a branch of the work.

2. This general council should include representatives of all aspects of education—headmasters, headmistresses, and teachers in all types of schools between the elementary schools and the public schools. It should also include directors of education, representatives of education authorities, members of Parliament chosen without reference to questions of party, men of intellectual eminence, authorities on educational questions, scholars familiar with the subjects broadcast, and representatives of

The General Council

the Board of Education. This is a suggested list but not an exclusive one.

3. The principle of election should to a reasonable extent be introduced when forming this council.

4. Committees would be formed each dealing with the broadcasting needs of different types of schools.

5. Such committees would work in co-operation with representatives of the schools whose needs they were considering.

6. These committees would contain experts on the subjects broadcast.

7. Co-option to these committees would be freely resorted to.

8. The general council would be in practically continuous session. Much of its work would be done through a co-ordinating executive committee and by correspondence. A continuous session does not mean daily or constant meetings. It means that the council would be always functioning.

9. The council and committees would maintain constant contact with the head-quarters academic staff, including the lecturers giving the broadcast talks.

10. The executive committee of the council referred to in paragraph 8 would be a committee distinct from the other committees, its special function being to carry out schemes of work assented to by the general council.

The Machinery of Control

11. The general council, in addition to an executive committee, would have executive officers, including secretaries and whatever expert staff was necessary.

12. It is not proposed that the members of the council or committees should be paid. Their expenses would of course be defrayed. The executive officers should be paid.

It is not possible for the present writer at this stage to suggest the best solution for all the questions which arise in connexion with the wide system of school broadcasting which is here outlined. A responsible body set up on some such lines as are now suggested will, if given freedom to experiment, be able rapidly to develop a satisfactory system in which the spirit of progress can always be kept alive.

I should like in this connexion to refer to the proposal made by the recent Committee in their report to the Postmaster-General that a senior cabinet minister should be responsible in respect of broad questions of policy and culture, that this minister should have the right of veto over programmes and the duty of defending broadcasting estimates in Parliament.

I believe this proposal to be a wise one, and, although it is not directly concerned with school broadcasting, it is not irrelevant to refer to it. The freedom and progress of broadcasting depend, I think, upon the power of Parliament to exercise

The General Council

control in the last resort, and to secure reasonable publicity. This proposal is in no way one which would hand over the B.B.C. to political control. It secures this great new instrument from improper political or other use. The responsible minister would be subject to the House of Commons. Members would have the right to question him, and the public would have the same feeling of security in the integrity of the administration that they now have in, say, the Post Office.

5. A Head-quarters Academic Staff

IT will be seen from a review of the suggestions which have been made that what is contemplated goes far beyond the work attempted in educational broadcasting.

It would not be possible for this work to be adequately done through the medium of chance lectures sandwiched between the items of National or Regional programmes. It would be necessary, therefore, to set up a panel of special school lecturers, and these should include some of the greatest authorities on their respective subjects. The most eminent scientists and other scholars would not consider their time wasted if they were to address for a short time weekly an audience which might run to millions. Contemporary historians would welcome the opportunity of reaching a unique audience and enabling them to understand the pageant of history. The musician would not be less eager to interest the world of youth in his art. These are elementary truths.

The panel would contain men and women who were willing and competent to help in school broadcasting. These might include more than one authority on each subject. Such authorities would be constantly added to their number. It would thus be

A Head-quarters Academic Staff

possible to secure freshness in the presentation of subjects as well as freedom from undue bias or a permanent orientation of mind. As a whole they would correspond to the academic staff of a university. They would not necessarily work together as a body, for it would be part of their functions to advise the general committee on the broadcasting of specific subjects, and in discharging this function they would naturally work in small groups or sub-committees composed of experts in the subjects under consideration. Another function would be to suggest suitable lecturers, either from their own number or from outside. They would thus be in reality an advisory body of experts on subjects proposed for broadcasting and also an academic staff, some of whom would be actual broadcasters.

It would also be the duty of this academic head-quarters staff, on request from the general committee, to prepare courses of talks on different subjects. It would probably be found in practice that it would be convenient and desirable to have on the academic staff some salaried members who would give their whole time to the work. These members would both broadcast and prepare for broadcasting series of talks on subjects required by different groups of schools.

It cannot be too strongly emphasized that the work of school broadcasting should not be a series of occasional lectures but should be continuous instruction on a large variety of subjects.

6. A Weekly Paper for Educational Broadcasting

IF the scheme outlined in this book is carried out in any adequate degree, it becomes necessary not only to have a special department for literature and art, but to issue a weekly paper for the help and guidance of the schools of the country which take part. It is unnecessary to put forth general statements about the value of a newspaper. It will be more fitting and more useful to set forth the particular reasons why such a paper as that suggested is now necessary.

1. Each number would contain full details of the programmes for the following week. They would be carefully classified and explained in some detail so that every school would know which programme would be of use to it.

2. The paper would contain reports of the more important of the addresses broadcast. Three months' issues would comprise a volume. The B.B.C. would issue the bound volumes at a low price at the end of each three months for the special convenience of school libraries. The weekly copies would frequently be worn out in the process of using them, and the bound volumes would be indispensable.

3. The paper would be the medium for answering relevant questions from the schools on points which

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arise in the broadcasts. Discussions in the paper would be possible and valuable. Inter-school news on broadcasting matters could be published.

4. The paper would prepare schools for certain of the talks in the ensuing week. The preliminary information given for this purpose would include references to necessary books, and, where appropriate, diagrams or other illustrations.

5. Experiments could wisely be undertaken both with regard to format and arrangement of the contents of the weekly paper. It must be remembered it will be unique alike in its contents and the objects it has before it. It should avoid presenting its literary matter in a conventional and stereotyped way. Educational broadcasting would be permanently connected with certain subjects, and it might be a good thing to have separate sections of the paper devoted week by week to the same subjects.

6. The paper would contain careful syllabuses of the work proposed to be done in various subjects. It would be the means by which contact could be maintained between the specialists and the teachers.

7. It would record the progress of broadcasting to schools generally and would encourage experiments, societies, and clubs.

8. Original work by children, both in academic subjects and in art, should be printed. Pupils should be encouraged to share in what would become joyous adventures.

7. A Department for Literature and Art

IT is obvious that the schemes set forth would demand the publication of literature of a character which would enable the broadcast teaching to be understood and supplemented. It would be necessary at the start to get rid of the difficulty of the lack of illustrative material. The master in a school can supplement all that he says by showing books, illustrations, and many other exhibits. The unseen lecturer who is broadcasting must have similar help, so far as that is possible. In the case of all art teaching illustrations would be necessary. All pupils listening to the lecturer should have before them such simple illustrations as would make the lecturer's words easily intelligible. Similarly, in connexion with scientific teaching, with nature study, with architecture, and many other subjects, illustrations, in some cases essential, would always be desirable.

It would therefore be necessary to establish at the head-quarters of the education broadcasting programme a special organization related to the head-quarters academic staff to provide for the provision and publication of leaflets, pamphlets, books, and illustrations. Such publications would be sold to the schools who required them. They would be of more

A Department for Literature and Art

than temporary use and would form permanent additions to the school library.

The organization of this department would require very careful planning. This could probably be most wisely done through the academic staff. Those who are responsible for planning the broadcast lectures to meet the needs of different schools and of different ages would appear to be the obvious persons to arrange for the necessary literature. It is here that so much service can be given not only by the lecturers and other authorities, but by the teachers throughout the schools of England.

It is not necessary to consider in any detail at this stage what arrangements should be made for the publication of such literature. It might be done direct by the B.B.C., and I am inclined to think that this would be the best method. But the co-operation of ordinary publishers need not be ruled out.

The weekly paper, already discussed, will of course be invaluable in connexion with the problem of the provision of literature and material for the study of art.

8. The Needs of Different Types of Schools

IF any further justification for an education broadcasting station is required, it may be found in the differing types of schools, the needs of which should be met. In connexion with secondary education, schools of the most diverse character have to be considered, ranging from the public boarding school to the county day school or the local grammar school. I do not propose to consider in detail the needs of different schools, only to indicate the extent of the problem.

The public boarding school has needs peculiar to itself. These partly arise from the fact that it is a boarding school and that hours convenient for some other schools would not necessarily be convenient for them. The leisure hours must be remembered, and also the fact that such schools have to find within themselves a complete life. That public school is greatest which evolves the healthiest life, filled with ennobling and creative interests for each of its members.

The day secondary school is of many types. There are big schools under the charge of local authorities in the cities, and small schools in country towns. There should be programmes meeting the special

The Needs of Different Schools

needs of each. The regeneration of country life could be helped through school broadcasting.

London schools, both elementary and secondary, present their own problems, some of them perhaps unique. There is within the county of London a population of about 2 millions of children between the ages of 5 and 18. The majority of these have no educational care after the age of 14. A great number of them live in houses in the recesses of mean streets. The ordinary widening influences which come into the life of a country child, or even into the life of a child in an ordinary town, are largely excluded from the life of a London child. Frequently the most constant influences in his life are mass amusements and pursuits such as the cinema or attendance at professional sports meetings. As I have already indicated, it is no part of my duty at this stage to make dogmatic suggestions for a programme for such schools, or for any, but I earnestly press the suggestion that special sub-committees of the general council, appropriately formed of the men and women having the necessary experience and knowledge, should work out experimental programmes for different schools.

Some of the questions to be dealt with affecting types of schools or all schools as opposed to individual schools are:

Country problems and occupations.

A great number of hobbies and interests.

The Needs of Different Schools

Laws of health: dress.

Careers.

Games and amusements.

Co-operation with libraries and museums.

Guidance to the contents of galleries and other collections.

Holidays and their use.

Craftsmanship.

Organization of leisure.

Travel at home and abroad.

Acts of Parliament affecting ordinary persons.

It is needless to go into greater detail. The problem may be thus stated: Apart from instruction in academic and other subjects varied to meet all the needs of differing schools, educational broadcasting should seek to deal with interests covering the whole life of youth, intellectual, spiritual, physical, social, and economic.

9. Some Subjects for Broadcasting

THE first main inquiry is necessarily concerned with the subjects which could be taught regularly in schools by means of broadcasting. Some of these subjects are put forward here for discussion. In developing this aspect of the question I repeat that no subject could be regularly taught in schools without the aid of masters and mistresses.

The place of these would be more than ever necessary, and I have briefly dealt with this point in other pages. With this reservation I pass to the consideration of some subjects which appear to me to be particularly suitable for broadcast instruction.

ART

I use the word art in its widest application. It is a subject which, from some aspects, is particularly suitable for educational broadcasting.

Many of us have waged a battle for the principle that drawing and painting should be regarded as a vital instrument of education in our schools. We desire to see it so used in the case of every child from the first to the last day of his education. I think it is through the practice of drawing, with the disciplined observation it brings, giving the pupil a new facility

Some Subjects for Broadcasting

for understanding the world around him, that we may make perhaps the greatest advance in reaching a higher standard of taste and criticism. There are few greater instruments of general culture.

It would, of course, not be possible in any real sense to teach painting by broadcasting, but there is much that can be done.

In a great number of cases the regular practice of drawing in a school encourages new interests in many directions. Let me take two of these: a general as opposed to a specialist interest in aspects of the history of art and the lives and characters of great painters; and inquiry and discussion on what is so vaguely termed the principles of beauty.

With regard to the first point, aspects of the history of art, this is a subject eminently suitable for treatment by broadcasting. Short addresses could be given by experts on the great schools of art through the centuries, and on the great painters and craftsmen.

I do not think it can be sufficiently emphasized that to interest a pupil in a single great picture, or a single creative worker, is to give him a key by which he can unlock for himself many other doors in the great mansion of beauty. If, therefore, it were my privilege to draw up a scheme for a national series of broadcast talks on art, I think I should begin first with a short talk about a single picture. I should not waste my time in arguing about the suitability of this picture or that. I should choose any picture which

Art

by the common consent of intelligent men was one worth studying and understanding. Let us begin, say, with one of the paintings of the Italian renaissance. There are thousands for us to choose from. Let us select Titian's 'St. Christopher', or Tintoretto's 'Paradise'. The students listening would have a reproduction of the picture in front of them. Its meaning would be explained to them, and its symbolism made clear. Their attention would be called to those little details which prove so interesting when understood. Something would be said of the personality of the painter, and of his life and times.

Such an address would certainly result in permanently enlarging the range of interest in the lives of many boys.

Let another example be considered. How helpful it would be to boys keen on drawing, or merely interested in it, to be taught something about the great movements in art. A talk on the English pre-Raphaelite movement, the pupils again having before them reproductions of the pictures dealt with, would bring a new interest into the lives of many of those who heard it. The form room would become a magical place for the boys who were constantly acquiring new interests in their lives, with the opportunity of following them up.

With regard to the second point which I suggested earlier, the encouragement of inquiry and discussion on the laws of beauty, this, too, is a particularly happy

Some Subjects for Broadcasting

subject for discussion by means of broadcasts. I should like to see the definite attempt made to discuss, in a way which could be easily understood by youth, some aspects of the laws of beauty.

I have never read a book on art in which the question of the principles of beauty is discussed without feeling that more nonsense is talked about beauty and its laws than about any other subject, and I am quite sure that great progress towards a nobler life for the nation and for the individual could be made if the attempt were made in our schools to enable youth to understand beauty and the way to bring it into everyday life. Such a task could well be attempted through the medium of broadcasting. I pursue this theme in the following section.

AESTHETICS: THE LAWS OF BEAUTY

Let me state in a little more detail the possibilities of broadcasting to schools on aesthetics and allied questions. The good influence which could be exerted is immeasurable.

We could be delivered from the thralldom of the ugly. It is perhaps bold on my part to attempt to set forth what I think would be a non-controversial treatment of one aspect of the subject I have given as the title of this section.

We ought to help youth to appreciate the laws of beauty, and to acquire standards of taste and criti-

Aesthetics

cism by thinking out these problems. Beauty is a thing which has been the subject of argument and dispute for centuries. I should, therefore, be unduly hopeful if I thought that I could give a final definition of beauty which would be beyond controversy. I shall not try to do so. But, nevertheless, it is possible to set forth some principles which would receive the general support of thoughtful persons.

I will limit myself to beauty created by man, which is the only form we can control, and it surrounds us all our lives.

I should define one aspect of beauty as work which results when certain principles or laws are observed. These would include the principle of suitability for purpose; of sincerity in workmanship and material; of simplicity, both in design and by avoiding all needless decoration.

These points do not exhaust the subject. Others arise as soon as discussion begins. I can only now suggest lines of treatment.

An illustration of perhaps one of the highest forms of beauty in things made by hand is a sailing ship. Its beauty is obtained by making it wholly suitable for its purpose. Its wonderful lines, the shape and size of the sails, are all determined by this. The addition of any sort of unnecessary ornamentation would defeat its purpose, and thus destroy its beauty. Sincerity in its workmanship and material is essential to its life.

Some Subjects for Broadcasting

These three virtues are especially valuable in trying to judge architecture. It is a difficult and complicated question. We do well, I think, to rid our minds, when considering houses, of any controversies about styles—Gothic, or classical, or any other—and consider only how best to meet the needs of the human beings who have to live in them.

We should welcome the new experiments in the architecture of houses which are being carried out in many European countries, and in America, and are now being tried in England. They should be considered with an unprejudiced mind. It is a mistake to think, for instance, that the gabled roof is the only form for a house. The flat roof, which avoids waste of space, and provides an outdoor room, is a common and very delightful feature of the new architecture. But it has other virtues, such as its treatment of windows with their great range of glass unbroken by many partitions and the clever devices for admitting the sun at windows at the angles. The new style also shows what fine effects can be obtained in different materials, especially concrete. With white as the main colour a most joyous and happy effect is obtained.

It is a mistake to think that buildings such as flats cannot be beautiful. They achieve real beauty and distinction by their proportions and simplicity. The erection of such buildings on the sites of former slums enables families to be rehoused under far

Nature Study

healthier conditions, with many of the internal amenities of civilization. They also enable open spaces and gardens to be provided.

Elementary instruction on the principles of beauty would naturally include not only some account of present-day architecture, and the place which simplicity and suitability for function should hold in it, but also the design and purpose of furniture and all that surrounds us in our lives as individuals—pictures, books, flowers, and colours. It should have some reference to the art of living together in cities and to the aesthetic problems of such a life.

I have only hinted at the scope of such talks on this subject. It is obvious that it is not one to be dealt with in one or two short talks. There is the opportunity here for talks arranged on a permanent basis.

I do not think it matters that such talks might be provocative. Discussion is one of the best ways of education. The classroom as an occasional forum would be excellent.

NATURE STUDY

There is a great place for broadcasting in connexion with the guidance of nature study, in preparatory, elementary, secondary, and public schools. Much excellent work has been done by the B.B.C. in this direction, but it requires to be greatly

Some Subjects for Broadcasting

extended and to be organized on a broader and more coherent basis. What I mean is that it is not sufficient to have unrelated talks, interesting and valuable in themselves, but not adequate alone for the needs of schools. There should be nature study talks going on all the year round and on many different subjects. Every child, for instance, should be taught something about trees—to be able to recognize them at any time of the year. Every child should be taught something about birds—their songs, their colours, their habits. The whole question of migration of birds and their movements in this country should be dealt with. Flowers, wild flowers, insects, and animals should also be considered. Many of these subjects call not for isolated lectures, but for an almost continuous course during the whole of the year.

A part of broadcasting in connexion with nature study should consist of the story of the year, told weekly and going on from January to December. In this story of the year would come not only things about birds, trees, flowers, and agriculture, but also gardening and other practical questions. Such a story of the year would supplement the special and more intensive courses on the subjects mentioned above.

There are many subjects which may be regarded as stepping-stones between nature study and geography, and in other cases between nature study and

Science

science. Such subjects include rain, rainbows, wind, colour of skies, fogs, sun and moon, river valleys, mountains, hills, plains, lakes, waterfalls, and rapids. On all these subjects fascinating talks could be given. Another aspect of the work would consist of directions for the making of simple apparatus for use in nature study. Such subjects would naturally include the preparation of skeletons of leaves, the grading of seeds indoors, the pressing of flowers, the making of such things as bird tables, weather-cocks, barometers, temperature screens, rain-gauges, sunlight-gauges, and flower-boxes.

Another department of nature study would be related to the sea and the interests of the sea-shore, including fishes, birds, sea-shells, fossils, and a great number of other things. On other pages the need for a weekly paper in connexion with educational broadcasting is discussed. Its need in connexion with nature study is apparent. In the pages of such a paper there could appear in advance essential diagrams and other illustrations to supplement the broadcast talks.

SCIENCE

There should, I think, be a regular series of broadcast lectures under the general title of science. By this I do not mean that there should be any attempt to give ordinary form-room instruction in

Some Subjects for Broadcasting

physics and chemistry or to prepare boys to pass an examination. There are many aspects of science which it is rarely possible to explore adequately in many schools. One of these relates to new discoveries which are constantly being made and the influence they have on human life.

In the mind of the ordinary person the division between science and non-science is complete. In all scientific matters his respect for the most elementary knowledge is pathetic—he greets everything with joy and wonder.

Towards matters infinitely more difficult, which are not in any technical sense called ‘science’, he does not adopt this view. He has strong views on politics, on how unemployment should be dealt with, or on how the most intricate negotiations in foreign affairs should be conducted.

Science in its narrow sense must be made more understandable. Our ordinary courses in science are too formal and too academic. It is not appreciated how great the reaction has been from what might be termed the mechanical interpretations given by the scientists of the last century.

The modern discoveries and advances of science show how humanistic is the philosophy of science. As Sir Richard Gregory has said: ‘The true message of science is not in the bomb or the earthquake, but in the still small voice from the laboratory.’

The wireless should offer exceptional facilities for

Science

men capable of expressing the spirit of the new discoveries in science in a clear and non-academic manner.

Some of the subjects which could well be discussed by means of broadcasting include the following:

Rays and electrons.

Theories of atomic structure and the experiments upon which the theories are based, e.g. the simple experiments made by Rutherford in 1910 before publishing his nuclear theory.

Radioactivity, with special reference to C. T. R. Wilson and his cloud chambers.

Cosmic rays.

The way in which weather reports are made possible.

Constitution of stars, avoiding recitations of meaningless numbers.

Wireless and Television. The story of their discovery and a study of their facts and meaning.

These suggestions are tentative and incomplete, as indeed they should be, for the progress of scientific discovery is continuous and the work of interpretation must be similarly continuous.

The argument for broadcasting scientific talks can be simply stated. Most of the questions concern matters of which every citizen should have some understanding. It is impossible for every school, or perhaps for many schools, to have specialists on their staffs competent to deal with such questions

Some Subjects for Broadcasting

as a whole. It is broadcasting alone that can meet the need.

It is relevant to remark that the overwhelming number of pupils in our elementary and secondary schools will have no sort of university education. Many of them will cease their formal education on the day they leave school. Broadcasting has thus a great opportunity to act as a pioneer educational force.

I think it would be possible in such a subject as this, which means no less than a constant review of modern discoveries in many branches of science and their application to the needs of everyday life, to obtain the services of the most eminent scientists of the day in their respective subjects. Such an audience as they would address might well excite their enthusiasm. They would reach an audience of hundreds of thousands, perhaps of millions. These great authorities would surely deem it an honour to cooperate in a national system of broadcasting.

Let me give an instance of the good that could be done in furthering scientific interest and knowledge amongst the higher forms of public and secondary schools. As I write these words the British Association is meeting and is listening to an address by Sir Josiah Stamp on the impact of scientific discovery upon society. There are also being delivered lectures on a great variety of subjects of great human interest and importance. It is obvious

Music

that it is impossible for each school to keep its senior boys in touch with the proceedings of such a meeting. It would be a comparatively simple thing to arrange for a scientist to broadcast a few short addresses on the discoveries and suggestions discussed at the meeting and to arouse what might well be a permanent interest in the great issues involved.

MUSIC

Music presents a great opportunity for broadcast instruction as well as some special difficulties. It may be objected that so much music is already broadcast in the general programmes that an additional programme is unnecessary. This is far from being a true criticism of the proposal now made. A great amount of the music now broadcast is unsuited to children, and it would perhaps be irrelevant to say that not a small amount is unsuited to any audience. The problem, however, is an essentially different one for children from that which arises in the case of adults. Dance music, the comic turns, the popular music-hall items, do not meet the needs of youth. They will have plenty of opportunities of hearing these things in full measure. At school the opportunity should be taken to give them an understanding of great music and an appreciation of it. This does not mean that the talks would be dull talks—far from it.

I would suggest the following as some of the

Some Subjects for Broadcasting

subjects which should be taught: the distinctive music of different countries; an account of the lives of the great composers; an attempt to help towards the understanding of the language of music—by this I mean an attempt to enable the great majority of children to share and to understand the emotion which the musician was attempting to express; an elementary account of the kind of music which each of the great composers was trying to create. The study of English music would include the history of the carol, folk songs, the place of music in past centuries, and musical instruments both ancient and modern. An attempt should be made to show the unity of poetry and music. It is not necessary for doggerel to be sung. Great poetry and great music go best together.

There would be concerts constantly given illustrative of the talks in addition to musical illustrations during the talks. I think there is a great place for concerts relating to a common theme. They could sometimes illustrate the work of a single master or of a group of masters. They could consist of illustrations of short great poems which have been set to great music. The most obvious illustrations are of course the songs of Shakespeare. I often wish that children had the opportunity of hearing some of the delightful poems which have been set to music, such as Kingsley's 'The Three Fishers' or Tennyson's 'The Brook'.

History

There is no subject where a higher popular standard of taste is more urgently required than in music. This improvement in the standard must, I think, have its origin in our schools, but here, as in any other subject, the teaching of which is supplemented by broadcasting, the active co-operation of the school would be necessary.

Here let me record a criticism of much of the music broadcast by the B.B.C. known as Variety. The music itself is poor, but frequently the songs which it accompanies are vulgar and suggestive to an intolerable extent. It is no part of the duty of the B.B.C., who hold as trustees for the public a great monopoly, to broadcast matter which must have a corrupting influence.

HISTORY

In the teaching of history broadcasting would be a valuable supplement. The greatest help would be not by isolated lectures, though there is a place for these, but in courses which are either complete in themselves or which form a general background to historical work in schools. Here are some suggestions on these lines:

1. Courses of talks on definite subjects, as for instance the French Revolution, the American War of Independence, and the abolition of slavery.
2. Debates on questions of historical interest.
3. Biographical studies.

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4. Historical plays. These, if united with biographical studies, would be specially valuable in arousing the interest of the audience.

5. Studies of historical novels. Many of Dickens's and Scott's novels deal with a definite period and lend themselves to treatment in broadcasting.

6. Recitals of great speeches. It is not every school which can produce an announcer's voice. It would therefore be of real value to schools to be able to listen to first-class renderings of great speeches. Few things are more moving than noble passages of prose nobly rendered—Lincoln, John Bright, Woodrow Wilson, Burke—these are some of the names which occur to one in this connexion.

LATIN AND GREEK

It is, I suppose, the general tendency for the study of Latin and Greek as languages to be eliminated from the curricula of a large number of schools. This is specially true with regard to Greek. It is, I think, a reasonable view that, whether these languages are retained or discontinued, the attempt should be made in every school to give pupils some elementary acquaintance with the writings of the great Greek and Latin authors. There is here a great opportunity for educational broadcasting. The work to be undertaken in connexion with this subject might include brief studies of the literature of Greece and Rome. In particular this should include studies

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of the life and philosophy of Plato and the Greek dramatists. Recitals or performances in English of some of the plays would be of great cultural value. Another subject would be courses of lectures on Roman and Greek life. These would not only be of great value where the languages were not studied in schools, but they would be very helpful and necessary as a supplement to the study of the classical languages.

PRACTICAL CITIZENSHIP

Education in the problem of citizenship by means of broadcasting appears to me to offer opportunities for unusual influence on matters of great public importance. Such teaching should aim at cultivating a corporate sense of responsibility on matters which concern the whole country. Let me give some examples of what I mean. There is general agreement that widespread destruction of the beauty of rural England is taking place—sometimes through thoughtlessness, sometimes through lack of any cultivated sense of responsibility. There is the litter nuisance, which constantly assumes more serious proportions; uprooting of plants and flowers from almost every open meadow and country lane in the kingdom; indifference to the preservation of bird-life; and there is frequently an entire absence of any desire to respect, I will not say to reverence, the mysteries and guard the beauty of the natural world.

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I am writing these words in a country house near the sea in surroundings of unusual beauty. In the month of August the appearance of these surroundings changes. The landscape is white with the canvas tents of many organizations: Scouts, Boys' Brigade, O.T.C.s, military units, private holiday camps, commercial holiday camps, and I know not what besides. No one would object to the presence of these campers if they observed civilized standards of behaviour. The growth of the outdoor life is something to be welcomed, and, as the founder of a boys' camp which for a quarter of a century set a high standard in cultivating in all its members their responsibility not only to the public but to nature, I shall not be suspected of any lack of sympathy with all schemes to promote the outdoor life, but many of these camps are organized inefficiently and inadequately, so that they become in part an evil. Some time ago my private grounds were invaded by a party of boys from a neighbouring camp. They found a beautiful tame sea-gull, greatly prized by its owners, and immediately clubbed it to death. On the day I am writing this chapter I found people from neighbouring camps destroying the rose-trees in my garden. A little time ago, walking along the cliffs near by, I found that a camp which had just left the grounds had cleaned up by pitching all its broken bottles and debris of all descriptions over the cliffs. I find quiet little retreats at the edge of the cliffs surrounded by

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rubbish and offal and littered with old newspapers, cigarette containers, and the remains of picnics. I could multiply these things, and my experience does not stand alone. Columns of our papers record similar things all over the country. Some local authorities are trying to get power to prevent camping altogether in their localities.

I have long been of opinion that the solution of this evil is to be found in the cultivation of high standards in our elementary and all other schools, and I suggest that instruction on this question of practical citizenship should be a permanent feature of educational broadcasting. The following are some of the subjects which should be dealt with in such a scheme of education:

1. The cultivation of an individual sense of responsibility and the encouragement not only to do nothing harmful or destructive oneself, but actively to promote co-operation in all helpful schemes for guarding the beauty of the land.
2. The cultivation of a spirit of reverence for the beauties and mysteries of nature. This to be achieved not only by lectures of the right type, but by publications including pictures.
3. Realization of the place that wild flowers and other flowers have in the scheme of beauty; the support of constructive schemes to increase flowers, other plants, and trees.
4. Definite teaching against injuring or frightening

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birds, disturbing their nests, or taking their eggs. Lectures on the habits of birds would perhaps be the best propaganda possible, for no adequate lectures on this and kindred subjects could fail in their appeal to youth.

5. Respect for property, care of farmers' land, closing of gates, refraining from improper trespassing.

6. The cultivation of a spirit of reasonable quietness in following an outdoor life: raucous, noisy, restless activities continued the whole of the day bring no final good.

I could multiply this list indefinitely, but I can only again say that these notes are intended to be suggestive only, not exclusive or comprehensive. I should be unduly optimistic if I suggested that broadcast lessons would cause a natural reform in these matters which we all desire, but they would help. I think if they were united with a reformed curriculum under which every boy and girl in the schools of England would be taught to try to acquire standards of taste and criticism, to develop their minds by craftsmanship as well as by things learnt from books, to practise good hobbies, and to use drawing as an instrument of observation and self expression, a great advance would be seen. Noble interests and hobbies united with a scheme of instruction as outlined would go far to get rid of an evil now gigantic in its extent and growing more menacing to some of the best things in life.

Other Subjects for Broadcasting

OTHER SUBJECTS

In considering some subjects for broadcasting I have omitted many. I have done so purposely, and at the risk of repeating myself I desire again to emphasize that my object has not been to make an exclusive list of subjects, nor a detailed synopsis for the teaching of any subject. I have taken a number of subjects as illustrative examples, and I have discussed some aspects of those subjects which might well be dealt with by broadcast education.

English Literature. Many of the subjects omitted are equally suitable for inclusion in the scheme. English literature, for instance, would lend itself admirably for treatment. There could be courses of lectures, each complete in itself, on literary subjects. I would urge that special attention should be given to modern writers, the literature of the world in which the audience lives. Chesterton, Wells, Shaw, the younger poets of this century—all these would provide fascinating material for study. But the talks should be related. They should form a whole, and enable the youth of the country to be able to study all the great modern movements in literature. The broadcast talk could re-establish the greatest names in our literature in popular favour. I am thinking of Dickens, Scott, Stevenson, amongst the other important figures of the nineteenth century.

The art of story-telling could be revived and extended, short literary plays could be given, brief

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extracts from great poetry could be read aloud in such a way as to reveal to all the beauty and meaning of that which was read. Literary experiments at one school could be broadcast to others. There could be an inspiring exchange of literary hospitality.

Modern Languages. The treatment of modern languages by means of broadcast talks would give opportunities for original experiment. Some have already taken place. Apart from regular instruction in the language and its pronunciation, there should be an attempt made to create interest in the country of the language. Talks might therefore include interesting though simple accounts of the history and treasures of the country, and of its life and problems to-day. Its contemporary literature should also be dealt with.

Special attention should be given to the French, Italian, and German languages. It should never be forgotten that one of the greatest obstacles which divide peoples is the absence of a common language. Slowly this difficulty could be removed.

The News. The education station would, of course, provide for special broadcasts of news daily. I think these should be specially arranged for the audience in view and should differ from those in the general programmes. It is an opportunity to encourage young people in the intelligent use and understanding of newspapers. To some extent the news bulletin could be united with the presentation of current

Other Subjects for Broadcasting

history, in the sense that a non-controversial interpretation would be attempted from time to time of the events of the world. But I can imagine no subject which would require more careful treatment in order that mere nationalistic prejudices should be rigorously excluded.

It would be a good plan to have one news broadcast early each day. This would create and would meet a reasonable interest in the events of the day and would directly encourage young people to search in the papers for the events mentioned. In this way progress would be made towards getting true standards of value, and intelligent interest in real things.

10. A Few Notes, Some Perhaps Prophetic

BROADCASTING is so new, its problems and possibilities so vast, its possible developments so challenging, that even in the short space of time between the writing and the publication of this book I am conscious that new aspects of the subject have arisen which call for notice and indeed emphasis. One of these is the progress made in television. Its educational importance in relation to schools and to some of the questions discussed in these pages cannot be overlooked. Its development may be as rapid as broadcasting: its possibilities may be even greater. It gives, I think, additional weight to the main proposals in this book, especially that for the establishment of a separate education station. I write this note in the hope that the relation of this new development in scientific discovery will be constantly considered in relation to educational broadcasting.

Another note should be made relating to the Board of Education. I have occasionally mentioned it in these pages. It would be a pity if inter-departmental questions arose, of a controversial kind, in connexion with the co-operation of the Board in educational broadcasting. But I earnestly appeal that the Board should be associated officially with this development

A Few Notes, Some Perhaps Prophetic

of broadcasting. They would be able to help in acting as a unifying influence in developing schemes for varied types of education, and the experience of their expert staff of inspectors and examiners should be of great value. Perhaps the new Charter for the B.B.C. could make provision for the co-operation of the Board of Education.

Another question which merits attention is the way in which broadcasting could be used to further the work of universities. Here are a few suggestions of possible developments: the universities could broadcast to schools and other educational institutions; they could exchange regular broadcasts with foreign universities; details of the progress of research work could be exchanged between universities; and they could become the recognized agency through which the world would be made acquainted with important scientific and other discoveries, especially those concerning the health and happiness of peoples.

Finally, a note on the general question of public control of the B.B.C. This matter does not directly arise in connexion with educational broadcasting, but the more I examine the possibilities of the influence of broadcasting, and the increasing place it will take in life, private and public, with its immeasurable power in international affairs, and the issues of peace and war, the more strongly I am convinced that there will be an increasing and insistent demand

A Few Notes, Some Perhaps Prophetic

for its adequate control by the public. Adequate control in my judgement would be realized if public criticism and discussion were made possible in the House of Commons by the creation of a responsible minister.

II. Summary of Suggestions

1. A separate education station on its own wavelength.
2. A continuous daily programme.
3. The need of all types of schools and other educational institutions to be met.
4. No development to take place at the cost of teachers.
5. The importance and responsibility of the position of the teacher to be increased.
6. The ideal to be aimed at in educational broadcasting is continuous permanent instruction on a wide variety of subjects.
7. A fresh technique to be used in form rooms in connexion with broadcasting.
8. Where possible the broadcast talk not to exceed 20 minutes to allow for subsequent help in the same school period by the teacher, for discussion, and for the writing of notes.
9. A weekly paper to be published for the schools.
10. Machinery of control: a general council, large and representative, to some extent elected, to be set up.
11. The final authority to be the B.B.C.
12. Committees of the general council to deal with the needs of differing types of schools.

Summary of Suggestions

13. Co-operation, through these committees, with individual schools.
14. Experts in the subjects broadcast to be on these committees.
15. The general council to be in continuous session in the sense set forth in previous pages.
16. The general council to have executive committee and all necessary officials.
17. A head-quarters academic staff to be set up.
18. A department to be established for the provision of necessary books, pamphlets, and illustrations.
19. Special sections in school libraries. A library of illustrations.
20. Some subjects specially suited for broadcast instruction are considered in detail.
21. The Board of Education to be officially associated with educational broadcasting.
22. The universities to be associated, and help on certain lines to be given by these.
23. In addition to broadcast help in ordinary academic subjects the needs of differing types of schools to be met.
24. The problems of leisure to be considered.
25. Organization of groups of adolescents for voluntary co-operation.
26. The encouragement of interests covering the whole life of youth—intellectual, spiritual, physical, social, and economic.

Summary of Suggestions

27. A broadcasting room at each school.
28. Provision of suitable receiving sets at reasonable prices.
29. Expert technical help and instruction in maintaining these.
30. Constant consideration of the possibilities of television in relation to educational broadcasting.

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