AN EXHIBITION OF MECHANICAL AIDS TO LEARNING

CATALOGUE
PRICE SIXPENCE

1930
THE BRITISH INSTITUTE OF ADULT EDUCATION

Education & Entertainment
Showmanship & Scholarship

An EXHIBITION *of*
MECHANICAL AIDS *to* LEARNING

Including Television, 'Talkies,'
Broadcasting, Films, Lanterns,
Epidiascopes, Gramophones, etc.

held at the

LONDON SCHOOL OF ECONOMICS
Houghton St., Aldwych, W.C. 2

from September 4th
to 6th, 1930

Published by
THE BRITISH INSTITUTE OF ADULT EDUCATION
39 Bedford Square, W.C.1

The British Institute of Adult Education

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The British Institute of Adult Education

The British Institute of Adult Education, which has organised this Exhibition of Mechanical Aids to Learning, was founded in 1921 as a direct consequence of the rapid growth of adult education in Great Britain since the war, which brought about the need for the creation of a national organisation which could undertake research into problems affecting adult education, and mobilise public opinion in support of its claims. The membership of the institute is based on invitation extended to individuals associated with various forms of adult education, in its teaching and administrative aspects. The direction of the Institute is in the hands of a general committee appointed by its members.

The Institute has already come to be recognised as the main channel through which public opinion on matters affecting adult education in general can best be formulated. It holds regular annual and other conferences, which are attended by representatives of the Board of Education, the Universities, Local Education Authorities, and Voluntary Bodies concerned with adult education. It has established a Library of Adult Education, publishes a journal twice yearly, and has issued many other valuable publications.

The Institute has always taken an active part in promoting enquiry into new developments in the field of adult education. In collaboration with the British Broadcasting Corporation it set up the committee of enquiry which published in 1928 the report—*New Ventures in Broadcasting*—which has supplied the basis of the recent successful growth of adult educational broadcasting in this country. In March 1929 the Institute set up a committee of its members to promote the adult educational uses of cinematograph films, and in November 1929 it assisted to launch the new National Commission on Educational and Cultural Films. The above-mentioned committee of the Institute's own members is responsible for the organisation of the Exhibition of Mechanical Aids to Learning.

FOREWORD

THE equipment of education, like that of every other productive process, needs constant overhauling. New devices must be continually sought, not merely to save labour, but to extend scope and heighten efficacy. For nothing is to be gained by deploring the fact that to-day the Machine is being pressed into —or rather, is offering itself to—the service of Knowledge. Rather it is for teachers, parents and students to investigate the new mechanical inventions with the same keenness that business and entertainment bring to their commercial exploitation, and with a determination to find out by experiment the right way to use them in education. But adequate publicity and opportunity to see the new inventions demonstrated are essential pre-requisites even to this stage of experiment. And so far the opportunities which educators have had in this field have been distinctly limited. Many persons have seen an occasional film which has direct educational value. Some have had explained to them particular kinds of apparatus which would be useful in the class or lecture room. But never before has the public had the opportunity of seeing *all* the main inventions side by side, and of comparing their utility and forming ideas as to the possibilities of their combined use. It is to supply this need, and to give concrete satisfaction to the growing wave of public interest in the matter, that the British Institute of Adult Education has taken the lead in organising this Exhibition of Mechanical Aids to Learning, which is the first yet held in this—or, we believe, in any other—country.

One of the main purposes of the Exhibition is to promote consideration of the educational uses of the Moving Picture. This invention, although one of the first to revolutionise the world of entertainment, has been comparatively backward in penetrating our schools and colleges; whilst its general educational influence on public taste has so far been disappointing. The whole problem, however, is to-day being thought out afresh by the new National Commission of Enquiry into Educational and Cultural Films, a description of whose activities will be found later in this catalogue. This Commission is taking an active part in the Exhibition by organising a Model Class, showing the use of cinematograph films in teaching geography. In spite of the large number of educational

films which are being produced in this country, the public has still little guidance as to which are the best to choose; but during the course of this Exhibition a number of displays of educational films, both silent and sound, will be given by leading producers.

The Exhibition is divided into four sections, as follows:

(1) Large projectors and films.
(2) Gramophones and radio.
(3) Small projectors, epidiascopes, lantern slides, etc.
(4) General.

The Exhibition as a whole has met with remarkable support from firms engaged in the cinematograph and allied trades. Thanks to their co-operation, it will be found that these four sections will give between them a most exhaustive survey of what is being done to-day to develop the use of the Eye and the Ear in education. It is highly gratifying to the promoters of the Exhibition to find that all these firms display such a keen realisation of the educational possibilities of their products; and it is to be hoped that educators will seize the opportunities which they offer.

That reliable apparatus should be upon the market at prices which educational institutions can afford is the first essential for progress. A whole section of the Exhibition is, therefore, devoted to showing various kinds of Large Projectors which will throw a standard size film on a screen. Among this apparatus will be found specimens of talking-film projectors. The Talking Picture holds a place of special importance for the future of education, inasmuch as it appeals to the two senses of sight and hearing at once. By its means, teacher and pupil can be brought into living contact with the leading personalities of this and other countries of the world. Scientists, explorers and men of affairs can be made to step direct into the classroom and awaken the imagination of the young and give them information and impressions of unrivalled vividness.

In the past the introduction of such large projectors into the classroom has been hampered by fear of fire risks, but these risks are now being overcome by the introduction of non-inflammable films and apparatus, specimens of which are on view at the Exhibition. Those who think the cost of large projectors at present

debars them from experiment in this direction should by no means neglect the section which is devoted to Smaller Projectors and their variants. Among these may be noted apparatus for taking and also for projecting small sub-standard size films; also a good variety of easily-portable Lanterns, throwing single pictures upon a screen from a film or paper photograph. There is also the Epidiascope, which will do the same for objects in the round. The manufacture of slides and films for these small projectors is now undertaken at such a reasonable cost that lecturers and teachers can get their own pictures prepared for classroom display by this method.

No exhibition of Mechanical Aids to Learning could be complete without adequate representation of the two marvellous inventions of Broadcasting and Television. In the case of the former its educational possibilities have already been developed in this country to a degree which is the envy of many foreigners and an example to the producers of other mechanical devices. Undoubtedly the success which has attended the broadcasting of educational talks is largely responsible for stimulating the general public interest in the educational exploitation of the film to-day. Television may be said to be still in the experimental stage, but with its emergence before the public at the recent demonstrations given at the Coliseum and elsewhere, we may feel certain that no time should be lost by educators in taking serious account of its possibilities.

The Gramophone has been recognised for many years as complementary to broadcasting in the world of sound. Both have been found invaluable in the teaching of musical appreciation and foreign languages. In addition to this, the International Education Society has produced a number of valuable crystalisations in gramophone-record form of short lectures by great authorities on various subjects. The gramophone record has advantages of portability and permanence, which balance the advantages of topicality and vivid personal contact which are the chief attractions of broadcasting.

This section of the Exhibition contains an exhibit which is by no means the least interesting. By the kindness of Mr. Will Day, who has assembled over many years the most remarkable

collection known of objects illustrating the history of the evolution of the moving picture, we have been allowed to place a representative portion of this collection on view in the Exhibition. A visit to this room will create a powerful impression of pride in the progress which has been made, and expectation for the future development of the cinema. In the General Section will also be found some interesting examples of the way in which the new mechanical aids are being enlisted as agents of propaganda on behalf of several important social movements.

In conclusion, it is well to emphasise that one of the great hopes entertained by the promoters of this Exhibition is that it may do something to encourage co-ordination among these many valuable ideas which are thus coming to fruition in the educational world. In hardly any case does cut-throat competition exist between these various devices. Each has its own peculiar field of service. Television, broadcasting, the gramophone, and many small projectors will find their natural public in the home, and amongst small groups of students or pupils. The talking and the silent film are suitable for larger audiences in institutes, halls, classrooms and lecture rooms. Appreciation of one of these inventions generally leads the user to experiment with the use of other inventions. The appetite grows with what it feeds upon. May we, as the Educational Films Commission referred to above hopes, some day see created a national representative institution on a permanent basis, which will be able to weld together the public demand for these mechanical aids to learning, and give them their rightful place as accessories to the brain and personality of the teachers of our children!

EXHIBITION OF MECHANICAL AIDS TO LEARNING

held at the

LONDON SCHOOL *of* ECONOMICS *and* POLITICAL SCIENCE

Houghton Street, Aldwych, Strand, W.C.2

Sept. 4—Sept. 6, 1930

Programme and Time Table

Thursday, September 4th (Private View Day)

11 a.m. to 3 p.m. Press View of Exhibition. Demonstrations by R.C.A. Photophone Ltd. and Western Electric Co. Ltd.

3 p.m. Exhibition opened by the Right Honourable Lord Gorell, C.B.E., M.C. (President, Royal Society of Teachers). In the Chair, Sir Benjamin Gott, M.A., F.C.S. (Chairman, Commission on Educational and Cultural Films). Speaker, Mr. R. S. Lambert, M.A. (Chairman, Films Committee, British Institute of Adult Education).

5 p.m. to 8 p.m. Exhibition open to the Public.

5 p.m. Demonstration of Television by the Baird Television Co. (Rooms 36 and 37 Mezzanine floor.)

5 p.m. Demonstration of Educational Talking Films by R.C.A. Photophone Ltd. (Theatre.)

6 p.m. Demonstration of Educational Talking Films by Western Electric Co. Ltd. (Theatre.)

Friday, September 5th

11 a.m. to 8 p.m. Exhibition open to the public.

11 a.m. Demonstration of Educational Talking Films by R.C.A. Photophone Ltd. (Theatre.)

12 midday. Demonstration of Educational Talking Films by Western Electric Co. Ltd. (Theatre.)

12 midday. Lecture under the auspices of the Films Commission: "The Cinema and the School," by Mr. Valentine Bell. (Small Council Chamber.)

3 p.m. The Cinema in the School. Demonstration Class conducted by Mr. Ronald Gow of Altrincham County School, Cheshire.

4 p.m. Lecture under the auspices of the Films Commission "The Cinema and Adult Education," by Mr. R. S. Lambert. (Small Council Chamber.)

5 p.m. Lecture under the auspices of the Films Commission. "The Cinema and Education." (Theatre.)

6 p.m. Demonstration of Television by the Baird Television Co. (Rooms 36 and 37 Mezzanine floor.)

6 p.m. Demonstration of Educational Talking Films by Western Electric Co. Ltd. (Theatre.)

7 p.m. Demonstration of Educational Talking Films by R.C.A. Photophone Ltd. (Theatre.)

Saturday, September 6th

11 a.m. to 8 p.m. Exhibition open to the public.

11 a.m. Demonstration of Educational Talking Films by R.C.A. Photophone Ltd. (Theatre.)

12 midday.	Demonstration of Educational Talking Films by Western Electric Co. Ltd. (Theatre.)
12 midday.	Lecture under the auspices of the Films Commission. "The Cinema in Foreign Countries," by G. T. Hankin, H.M.I. (Small Council Chamber.)
3 p.m.	The Cinema in the School. Demonstration Class conducted by Mr. Ronald Gow of Altrincham County School, Cheshire. (Lecture Theatre.)
4 p.m.	Lecture under the auspices of the Films Commission. "The Cinema and Scientific Teaching and Record."
5 p.m.	Demonstration of Television by the Baird Television Co. (Rooms 36 and 37 Mezzanine floor.)
5 p.m.	Demonstration of Educational Talking Films by Western Electric Co. Ltd. (Theatre.)
6 p.m.	Demonstration of Educational Talking Films by R.C.A. Photophone Ltd. (Theatre.)
6 p.m.	Plenary Meeting of Commission on Educational and Cultural Films. (Private.)

The British Broadcasting Corporation will show in Rooms 103 and 105 (First Floor) a model studio which will be open to any visitors who care to call and inspect it or make use of the microphone. Reception from this studio will be in an adjoining room, where there will also be specimen wireless sets made to B.B.C. specifications, and at least one set demonstrating the usual standard of quality that the B.B.C. considers necessary for serious educational work. There will also be a display of posters, and the usual literature, with copies of pamphlets for distribution. In addition, B.B.C. engineers will be present to give advice, and to answer any questions which may be asked.

GUIDE TO THE EXHIBITION

The first exhibit which the visitor will notice is that of R.C.A. Photophone Ltd., in the entrance hall of the London School of Economics. Next, in the corridor leading thence to the large hall B, will be found the exhibits of British Instructional Films Ltd., Edwards & Co. and the Eugenics Society. On entering hall B the visitor will find the following stands: Western Electric Co. Ltd. (1), British Social Hygiene Council (2), Newton & Co. Ltd. of Museum Street (4), Newton & Co. Ltd. of Wigmore Street (5), The Money Game (6), Linguaphone Institute (7), International Safety Films (9), and Blunt & McCormack (10). Opposite the entrance into hall B a door leads through into hall A, which contains: Edibell Ltd. (1), Sands, Hunter & Co. Ltd. (2), British Talking Pictures (3), Chas. Baker (4), British Cinephone Ltd. (7), Universal Gramophone & Radio Co. Ltd. (9), Kershaw Projector Co. Ltd. (10) and Visual Information Service (11). In an adjoining annexe, still on the ground floor, will be found Kodak Ltd. (room 2) and Ensign Ltd. (room 1).

Proceeding upwards, on the mezzanine floor between the ground and the first floors, the Baird Television Co. has its demonstration room and exhibit (rooms 36 and 37). On the first floor will be found the model studio and exhibit of the British Broadcasting Corporation (rooms 103 and 105), and also the exhibits of the Gramophone Co. (room 118), the Columbia Graphophone Co. (room 123), and Messrs. Ritchie Lennie (room 126).

On the second floor are situated a further exhibit of R.C.A. Photophone Ltd. (room 205), and the exhibits of the Edison Swan Electric Co. (room 214) and British Thomson-Houston Ltd. (room 232). Here, too, will be found the well-known Will Day Collection (room 216) illustrating the history and evolution of the moving picture.

The demonstrations of talking films, and some of the lectures, will be given in the main theatre. Other lectures will take place in the small council chamber, etc.

Note. It should be noted that the British Institute of Adult Education does not accept any responsibility for any of the apparatus exhibited or advertised in this catalogue.

THE COMMISSION ON EDUCATIONAL AND CULTURAL FILMS

By J. R. ORR, O.B.E.

(Late Director of Education, Kenya Colony) Assistant Secretary

1. ORIGIN AND COMPOSITION

The Commission on Educational and Cultural Films was appointed in November 1929 as the result of a conference of about 100 associations summoned through the joint agency of the British Institute of Adult Education and the Association of Scientific Workers. This conference included representatives not only of the film industry but also of Government departments, the universities, learned societies, educational authorities and educational, scientific and technical associations of every description.

2. THE PROBLEM

The general feeling of the conference was that Great Britain lags seriously behind other nations in the use of the film as a serious instrument in the service of education and culture. Italy, for example, has divided up the whole country into nineteen provinces with nineteen film libraries for the schools of each province. They are installing projectors by the thousand in the schools and organising travelling exhibitions for the villages. In France there are already sixteen to eighteen thousand projectors in schools and other educational institutions, and there is a national cinema organisation of which the scientific side is very highly developed. In Germany, in addition to the Kulturforschung Institute in Berlin, a special cinema office has been established to approve artistic, educational and cultural films. Those passed suitable for use in schools or for public exhibition (with educational intent) are excused entertainment tax when shown in public. In America, perhaps the most interesting advance is the foundation of the Harvard Film Institute attached to Harvard University with a foundation of 200,000 dollars. It is considered that in the United States there are 800,000 logical outlets for motion pictures in places other than the cinema theatre and the home. Over 47,000 non-theatrical standard projectors and twice that number of narrow width or 16 mm. projectors are believed to be in operation in centres which include schools, clubs, churches, chambers of

commerce, technical societies, working men's groups, theatres, halls, women's clubs and fraternal societies, all of which show educational films in proportion to the facilities at their disposal.

In England and Wales the result of an inquiry limited to the schools and conducted by the Commission with the aid of the Board of Education, the London County Council, the various schools' associations show that the total number of schools in England and Wales which possess projectors is 268. The truth is that in British film production a vicious circle exists. A few firms which have produced excellent films and want to produce more cannot get an adequate market; institutions which want to use the new medium cannot get the right film. Producers and teachers are not in touch; producers do not know the kind of film which the teachers want, and cannot afford to make them for the present restricted market if they did.

3. AIMS

The aims of the Commission are therefore:

(1) To consider suggestions for improving and extending the use of films and similar visual and auditory devices for educational, scientific and cultural purposes.

(2) To consider methods of raising the standard of public appreciation of films by criticism and advice addressed to the general public, by discussion among persons in educational and cultural pursuits, and by experimental production of films in collaboration with professional producers.

(3) To consider whether it is desirable and practicable to establish a permanent, central and national organisation such as exists in other countries to encourage the use of the film in the service of education, science and culture.

4. ORGANISATION

The inquiries of the Commission are distributed among five Research Committees, as follows:—

Committee No. 1 deals with relation of the cinema to adult education, and works in co-operation with the British Institute of Adult Education.

Committee No. 2 deals with teaching and interest films in relation to children and adolescents, and co-operates with educational authorities.

Committee No. 3, with the assistance of the Federation of British Industries, co-operates with producers and distributors in matters relating to film production and technique, distribution and circulation.

Committee No. 4 considers matters officially referred by the British National Committee of International Co-operation (League of Nations) and co-operates with the International Institute of Educational Cinematography in Rome—a recognised branch of the League of Nations.

Committee No. 5 co-operates with scientific and other bodies in collecting information concerning, and in encouraging the use of, the film in the service of science, medicine and public health.

5. WORK IN HAND

Interesting work of various kinds has been undertaken:

(1) It has been discovered, for instance, that there is a close interdependence between the cinema hall and the public library, and that when the filmed version of a good novel is presented at the cinema the circulation of the book is thereby increased.

(2) With the support of the Colonial Office, the Commission is enabled to place at the disposal of the Colonial Education Departments throughout the Empire information regarding projectors for use in schools, and a selection of films suitable for the education of backward races, thus considerably widening the market for the producer.

(3) The Convention drafted by the League of Nations for the free interchange of educational films has been considered and the report of the Commission will shortly be forwarded to the British National Committee of Intellectual Co-operation.

(4) A catalogue of films relating to science, medicine, public health and industry is in process of compilation and will shortly be available to training institutions and learned societies.

There exists indeed a vast field for inquiry and development, and co-operation with the trade, with Government, with universities, educational authorities and learned societies will be cordially welcomed by the Commission.

The Commission has arranged for a series of demonstrations of the use of Films in Schools to be given during the Exhibition. Particulars of these will be found on the Programme pages of this Catalogue.

SECTION 1

Large Projectors and Films

Hall B, Stand 10 **Blunt & McCormack Ltd.**

Safety!!

FIRE PREVENTION!

B. & M.

POSITIVE CONTROL
for
SOUND *or* SILENT FILMS

FOOL PROOF

CAN BE FITTED TO ANY PROJECTOR

SMALL OUTLAY

DEMONSTRATIONS AT ANY TIME

BLUNT & McCORMACK Ltd.
FILM PRODUCERS
20 Bedford St., Strand
LONDON · W.C.2

Temple Bar 1931 *General Manager:* LESLIE STILES

DAYLIGHT SCREENS

SCHOOL DEMONSTRATION CINEMA OUTFIT

AUTOMATIC PORTABLE PROJECTORS

The
Advantages of Daylight Screens
for
EDUCATIONAL WORK

The teacher can demonstrate in the full light of the class room

Pupils are able to make notes while films are being shown

BLUNT & McCORMACK Ltd.
Educational and Industrial Film Specialists
20 Bedford Street, Strand, W.C.2

Temple Bar 1931 *General Manager:* Leslie Stiles

Hall A, Stand 7 **British Cinephone Ltd.**

BRITISH CINEPHONE

BECAUSE of its perfection of construction, its extreme simplicity of operation, its dependability in functioning and its great compactness, British Cinephone sound-film equipment is as suitable for use in educational work, in the classroom, the laboratory, or the medical and surgical lecture room as it is for the picture theatre. Moreover, it is far less expensive in first cost and in upkeep than other sets of equal efficiency.

One of the many special features of the British Cinephone equipment is the system of Amplification.

With Sound-on-Disc the output from each pick-up is taken directly to the fader and to the Pye main amplifier, but with Sound-on-Film the output from each photo-electric cell is taken to the Pye head amplifier, in which a high magnification valve is used, which in turn is coupled to a power type output valve by a transformer having a rising characteristic to compensate for the high note loss brought about by slit attenuation and the electro static capacity associated with the photo-electric-cell input lead. The output of the amplifier is via a step-down transformer arranged to match the 500-ohm constant impedance fader.

The output of each head amplifier is taken via the fader to the main amplifier, which is worthy of special note, as it embodies patented features which give pure amplification and perfect tone control by means of which even indifferent recording can be made to give uniformly good reproduction.

The tone control arrangement fitted to this amplifier makes possible a gain of 26 decibels (approximately 20 times) between 50 cycles per second and 4,500 cycles per second.

The main amplifier derives the high tension current and alternating current for the filament of the output valve from alternating current. Mains of any voltage between 100 and 150 and 200 and 250 (in steps of 10 volts) and frequencies between 40 and 80 cycles. A permanent metal rectifier is employed thus ensuring freedom from any troubles due to the limited life of rectifier valves.

Entrance Corridor **British Instructional Films Ltd.**

EDUCATIONAL FILMS

LITTLE BY LITTLE the difficulties that have impeded progress in the use of films for instruction are being cleared away and the value of this new medium for illumination is being realised.

From the first it was easy to realise the possibilities inherent in this medium and to produce films of beautiful quality and interest. It was very difficult to produce them in accord with the many conflicting ideas of those for whose use they were made. It was most difficult of all to ensure the use of them.

But the value of the motion picture in education could not be ignored. The vivid presentation of a subject—the completeness with which the range of a subject could be covered, the universality and the international power of the film, and, finally, the increasing receptivity of the youthful mind to cinema impression—made it a factor to be considered in all seriousness as a contribution to modern education.

British Instructional Films Studio at Welwyn

Certain subjects presented themselves readily as particularly susceptible to film presentation. Geography—natural and human—became a thousand times more vivid. Famous lands and strange peoples became more real. Then the camera joined with microscopy and began to probe deeper into the secrets of the natural world. Botany, with its revelations of biological processes, yielded up secrets which had been hidden from all but the expert investigator. The camera was able to record, without break or uncertainty, continuous processes of life, growth and reproduction in plant and animal world, and to produce film material liable, in the hands of expert and authoritative editors, to become valuable scientific documents.

Over ten years ago the firm of British Instructional Films Ltd., more with faith in the future of visual education than with much idea of immediate profit, set itself to develop this field. The first of the "SECRETS OF NATURE" series was produced, a series which was afterwards to give to British films of this type an unrivalled place in the educational world. Immense care, patience and ingenuity went to the making of these films. All the resources of the camera were brought into service and the former studios of B.I.F. at Regent House, Surbiton, became laboratories for this new research into the realm of Nature. The collaboration of scientists and authorities was secured and the results of years of observation and study recorded.

Outstanding personalities in the world of education and science have been associated with the work of B.I.F. Historians, such as Professor A. P. Newton, have contributed valuable criticism and advice on films dealing with the human and economic geography of the Empire. Essays in historical reconstruction prepared by B.I.F. have been employed by the Historical Association in its research into the value of the historical film.

The Marine Biological Association assisted with a collection of undersea films, and experts such as Dr. Chalmers Mitchell, F.R.S., F. Martin Duncan, F.Z.S., and W. P. Pycraft, F.Z.S., gave authority to many of the long series of animal studies that have been contributed to the field of Zoology. Also associated with B.I.F. are such names as those of Captain Knight and Oliver Pike, F.Z.S., in the world of ornithology, and Edgar Chance, F.Z.S., who revealed for the first time in pictures the strange history of the cuckoo. The collaboration of the late Professor Maxwell Lefroy the entomologist, and the work of Percy Smith in the plant world has proved what the educational film can offer when the highest technical equipment of the film studio is allied with scientific knowledge and observation.

Two points are clearly established by the result of these years of experiment. It has been proved that the cultivation of this field has already yielded a rich product of films that are now constantly in use in schools, colleges, institutes, etc., throughout this country and abroad, and, in many cases, these films are accepted as a definite contribution to the world of scientific discovery and educational development. Enough has also been proved to warrant the continued efforts of British Instructional Films Ltd. to maintain a constant and increasing supply of films, for it is the pride of the firm to believe that these productions are making a definite and worthy contribution to a force the value and importance of which can hardly yet be estimated: the *educational cinema.*

Hall A, Stand 3 **British Talking Pictures Ltd.**

Education and the Talkies

All classes of educational establishments are showing rapidly growing interest in the possibilities of the "talking film" as an aid to learning, and it is refreshing to note that British enterprise has come to the front by offering projection apparatus of proved efficiency at a most economical cost.

The reproducing equipment now being marketed by British Talking Pictures Ltd. shows excellent results, and the apparatus is functioning so consistently that many purchasers have stated that they do not require any service engineers to visit their theatre. British Talking Pictures Ltd. offer a separate service agreement if desired, for a period of three years, determinable by either party at the end of the first or second year, so that it does not throw a continuous burden upon the purchaser to pay large sums for service.

The cash price of the apparatus is £800 which represents the finest value obtainable in sound projector apparatus for tonal quality, yet Cinema exhibitors all over the country are full of praise for the B.T.P. 1930 Model, and during the last two months eighty new sets have been contracted for.

Full particulars and demonstrations of the set under working conditions will be gladly arranged on request by British Talking Pictures Ltd., 199 Wardour Street, London, W.C.2.

On the same stand a representative of British Publicity Talking Films Ltd. will be in attendance to attend to all enquiries with regard to film production.

Hall A, Stand 3 **British Talking Pictures Ltd.**
British Publicity Talking Films Ltd.

For full information regarding the use of

SOUND-FILMS

for educational purposes come to

STAND A 3

PROJECTORS

The ideal projector apparatus for educational institutions is

B.T.P.

the all-British apparatus which gives perfect reproduction of voice, music and pictures.

PRICE
£800
COMPLETE
INCLUDING INSTALLATION

Ask our representative for a demonstration

EDUCATIONAL FILMS

In the near future, every scientific society and institution will include amongst its archives films of the development of the particular science in which they are interested, for the instruction of students all over the world.

Now that the sound can be reproduced as perfectly as actual scenes it is desirable that every scientific institution should take steps, permanently, to record its activities by sound film. Ask our representative to discuss the matter with you.

BRITISH TALKING PICTURES LTD.
199 WARDOUR STREET
LONDON, W.1
Telephone: Gerrard 1544

BRITISH PUBLICITY TALKING FILMS LTD.
3 LEICESTER STREET
LONDON, W.C.2
Telephone: Gerrard 6403

Second Floor, Room 232 The British Thomson-Houston Co. Ltd.

B.T.H.

SOUND REPRODUCER

THE B.T.H. Type "C" Sound Reproducer has been designed with that specialised knowledge that is necessary to secure a very high standard of reproduction, simplicity in operation, and to ensure absolute reliability.

This equipment has an output of 10 watts and is suitable for an auditorium having a seating capacity for approximately 800 persons.

The amplifier is contained in a metal case measuring approximately 3 ft. 3 in. high by 1 ft. 10 in. wide by 9½ in. deep, with the necessary meters and controls mounted on the front panel. Minimum space is required for the projector and sound head, which are designed to suit all well-known makes of mute head. The gear for driving the sound head and turntable ensures smooth running, the latter being integral with the projector stand and runs in perfect synchronism with the projector head.

Two loud speakers of the well-known RK Type reproduce the sound in the auditorium. These speakers are arranged for mounting at the sides of an ordinary screen, or behind a porous screen.

A motor generator set is provided which supplies all the power required, thus disposing of the maintenance and charging of accumulator batteries.

A speech monitor is supplied for use in the projector box, also a fader and change-over switch for adjusting the volume and changing over from one projector to another.

Special consideration has been given to the design of the Type "C" Sound Reproducer to render it most suitable for educational use.

Hall A, Stand 1 **Edibell Sound Films**

EDIBELL SUPER EQUIPMENT

THE EDIBELL new Super Sound on Film and Disc Equipment consists of a universal stand and base of unique diagram with adjustable legs and column and incorporating direct drives, traversing and by direct coupling, driven by a synchronous motor.

The Turn Table is also of the positive direct worm and wheel pattern, designed for correct speeds and balance.

The Sound Head is of the latest and up-to-date pattern, embodying special features combined with simplicity, and its performance gives the highest efficiency, combined with its construction, necessary for high quality reproduction.

The Machines are designed and can be adapted for practically any make of projector and the method of driving the projectors are efficient without added strain.

The new All Mains Sound Producing Equipment is unsurpassed, comprising power unit supplying polarising voltage to photo electric cells and exciter, two first stage amplifications driven from above and mains amplifier capable of giving undistorted volume to fill any size hall, can be operated off any Company's A.C. supply mains at any voltage at low cost, irrespective of the electricity supply fluctuation (no batteries of any description used).

The whole apparatus and equipment is of the most up-to-date and latest design, simple in operation, efficient combinations of which the Edibell Company's Department have given much time and thought, resulting in wonderful achievements, the cost of the whole plant well within the reach of every exhibitor, and ALL BRITISH.

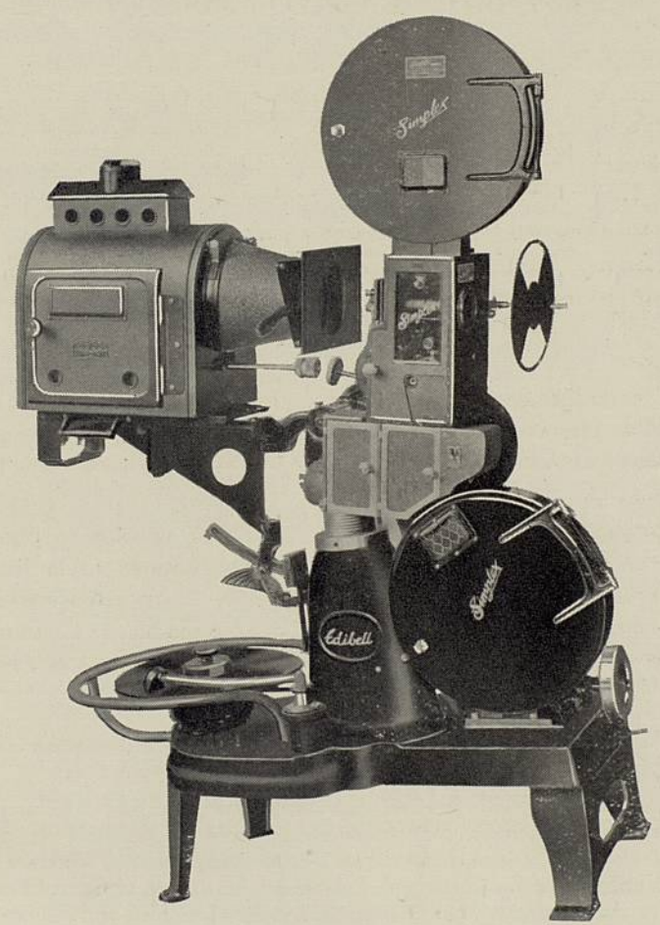
ALL ENQUIRIES TO

EDIBELL SOUND FILM APPARATUS LIMITED

89-91 WARDOUR STREET, LONDON, W.1

Telephones: Gerrard 4911-2, 6712. *Telegrams:* Edisound, Westcent, London

Edibell



Telephones: GERRARD 4911-2, 6712 Telegrams: EDISOUND, WESTCENT, LONDON

EDIBELL SOUND FILM APPARATUS LTD.

89-91 Wardour Street, London, W.1

Hall B, Stand 9 — International Safety Films Ltd.

IN THE HOUSE OF COMMONS, ON JANUARY 23rd, 1930, the Home Secretary (Mr. Clynes) made a statement in regard to the Paisley cinema disaster:

Dr. Forgan (Soc., Renfrew West) asked if he would consider the advisability of introducing legislation to secure that, where films are used for an audience composed mainly of children, such films should be of a non-inflammable type.

Mr. Clynes in a written reply, after expressing sympathy with the relatives of the Paisley victims, said:

> I should be very glad, if it were possible, to adopt my hon. friend's suggestion, not only for exhibitions given to children, but for all cinematograph exhibitions. The Home Office has watched this question closely, and has considered, for a long time, the possibility of insisting upon the adoption of a less inflammable type of film. But I am assured that, on technical grounds, it would not be feasible, in the present stage of development, to forbid the use of the more inflammable material in the case of films which have to fulfil the exacting requirements, and stand the wear and tear of constant use in the cinema theatres.

We respectfully submit that the technical difficulties prevailing at that time and referred to by the Home Secretary in his reply to Dr. Forgan no longer exist, for the following reason:

When the Home Secretary replied to Dr. Forgan in the House of Commons on January 23rd, International Safety Films Ltd. were completing their work of experimentation and exhaustive research extending over a period of nearly two years. The efforts of their chemists and technicians had been crowned with success. They had perfected at last a special process by which cellulose (pure paper) could be rendered SLOW BURNING, ABSOLUTELY TRANSPARENT, NON-EXPLOSIVE and NON-POISONOUS.

This new product, in no way related to the so-called non-flam film, is strong, durable, and in all respects adaptable to the recognised standards of photographic treatment in the manufacture of negative and positive film stock for motion and sound picture requirements.

Our laboratories have now been fully equipped for production on an ever-increasing quantity basis.

International Safety Film has been demonstrated to Officials of Government Departments, responsible for the administration of the Celluloid Act, the London County Council, London Fire Brigade Headquarters, Members of the Council of the Cinematograph Exhibitors' Association of Great Britain and Ireland, reputable Film Distributors, many Fire Chiefs and Education Officers, and accepted as being a SAFE SLOW BURNING PAPER FILM.

INTERNATIONAL SAFETY FILMS LTD.

GRAFTON HOUSE · GOLDEN SQUARE · W.1

INTERNATIONAL SAFETY FILM

WHAT IT IS

A perfectly transparent, strong, flexible paper base, treated photographically in just the same way as celluloid film.

Slow burning, even slower than paper, safe and always under control.

Non-explosive under all conditions.

Unlike so-called non-flam film, it does not give off dense volumes of acrid smoke and poisonous fumes when in combustion, which is very slow.

There is nothing in its composition to make it either explosive or poisonous.

WHAT IT DOES

Does not deteriorate or become brittle by usage.

Lasts longer than celluloid and more than twice as long as non-flam film.

Gives a picture of perfect photographic quality and is eminently suitable for sound reproduction.

WHAT IT COSTS

No more than celluloid and a quarter of the cost of non-flam film.

WHAT IT SAVES

Heavy wood-lined transit cases no longer necessary.

Transportation half the cost of celluloid.

Transported as an ordinary paper product.

Lower insurance.

Removal of irksome and costly regulations.

Can be shown with absolute safety in cinemas, schools, halls, buildings and institutions which are not licensed for the exhibition of celluloid films owing to structural and other objections.

INTERNATIONAL SAFETY FILMS LTD.

GRAFTON HOUSE · GOLDEN SQUARE · W.1

Hall A, Stand 10 **Kershaw Projectors**

AN IMPORTANT AID IN EDUCATION

EXPERIENCE, to vary the tag, is better than precept, as every educationalist knows. The nearer we can get, therefore, to teaching by controlled experience, the more fruitful and lasting will be the results of our efforts. We are rapidly realising the fact that the cinematograph can be a very efficient educational force: it often shows remarkably clearly the matter to be imparted to the student; its influence as a visual method is generally much greater than that of the auditory method: and it approaches the forcefulness of actual experience.

An essential part of any cinema equipment is the Projector. For educational purposes the Kershaw Projector Co. Ltd. produce a Projector, which has already been adopted by the Admiralty, the War Office, and a large number of Public Institutions and Schools. (Kershaw Projectors, incidentally, are used in 75 per cent. of the cinemas throughout Great Britain.) The Kershaw Projector does not need a professional operator to work it. It is extraordinarily silent in operation, and is very easy to manipulate. These two features alone make it particularly suited for general educational use.

The question of safety is naturally a very important one, and the design is essentially of a "safety first" nature. We can mention, for example, the incorporation of special fire ducts on the spool boxes—a construction that minimises the possibility of ignited film causing any material damage. In addition to this, however, the gate of the Projector is as far as possible away from the illuminating arc, so that the film is not subject to any high temperature from that source.

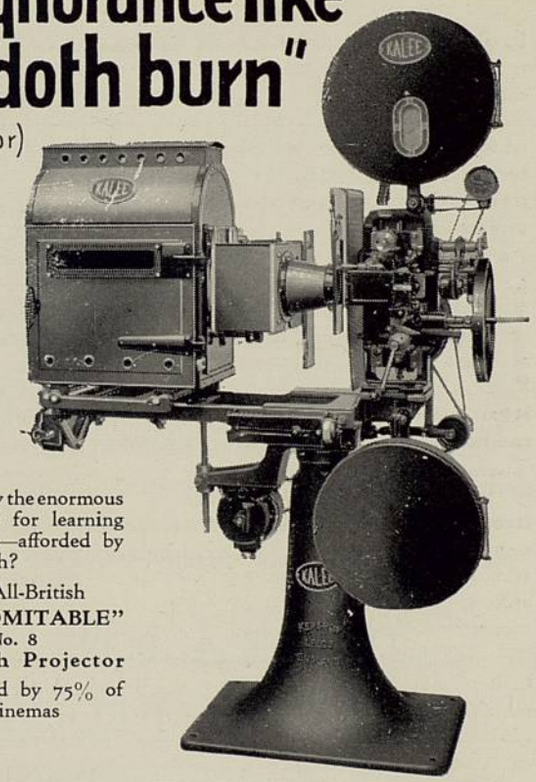
Kershaw Projectors are all-British throughout, and are therefore of the highest reliability. No trouble need be expected from the structure or mechanism, and in any event the Projectors are covered by a twelve months guarantee. There is a highly efficient service department maintained by the Company, which ensures that any operating or other difficulties that may arise will be speedily put right. In cases where no proper operating chambers can be arranged for arc operation, special projectors are available to work by cold light. The Kershaw Company undertake the complete installation of their apparatus without extra charge, and are prepared to give special instruction to operators when desired.

Anyone interested in the subject of the cinematograph as an educational medium should communicate with

THE KERSHAW PROJECTOR CO. LTD.
3 SOHO SQUARE LONDON, W.1
who will be glad to give all the assistance in their power.

"Learn to live and live to learn, iqnorance like a fire doth burn"

(Bayard Taylor)



WHO will deny the enormous opportunities for learning —by eye and ear—afforded by the Cinematograph?

The famous All-British
"KALEE INDOMITABLE"
Model No. 8
Cinematograph Projector
Used and admired by 75% of Britain's Cinemas

KALEE

KERSHAW PROJECTOR CO. (Proprietors) (Soho, Ltd.)
HEAD OFFICE - - - 3 Soho Square, LONDON, W.1
LEEDS and MANCHESTER: Albion Walk, Albion Street, LEEDS

BRANCHES

GLASGOW - - -	E. A. Langrish & Co. Ltd.,	88 Renfrew Street
BIRMINGHAM - -	,, ,,	1-7 Hill Street
CARDIFF - - - -	,, ,,	4 Park Lane
NEWCASTLE-ON-TYNE	,, ,,	61 Thornton Street

Second Floor, Room 205 **R.C.A. Photophone Ltd.**

THE TALKING FILM AS AN AID TO EDUCATION

made possible through the R.C.A. Portable Talking Picture Equipment

EDUCATION Authorities were amongst the first to see that the use of the Talking Film extended far beyond the field of Public Entertainment. Not only does it permit of the mind obtaining simultaneous visual and auditory impressions, resulting in a greater ease of retention and recollection, but, in addition, through processes known as "cutting" and "editing" a film of a subject ordinarily considered uninteresting can be presented in a very attractive manner.

THE R.C.A. PORTABLE TALKING FILM EQUIPMENT

is the finest medium of Instruction for the following subjects

SCIENCE	LANGUAGES	DIVINITY
HISTORY	GEOGRAPHY	GEOLOGY
AGRICULTURE	INDUSTRIAL INSTRUCTION	

NAVAL, MILITARY AND AIR FORCE TRAINING, ETC., ETC.

THE LECTURE ROOM *of* 1931

WHO WILL USE THE R.C.A. PORTABLE?

Universities, Government Departments, Educational Associations, Lecturers; Public, Technical, Secondary and Elementary Schools; Charitable and Religious Organisations; Political Organsations; Advertising Agents, Industrial Concerns, etc., etc.

Second Floor, Room 205 **R.C.A. Photophone Ltd.**

(continued)

THE R.C.A. PORTABLE
Sound and Picture Reproducing Equipment

is supplied complete in **five or six trunks** according to whether one or two projectors are required and consists of the following:

(1) THE AMPLIFIER–very compact–entirely mains operated with controllable volume sufficient for all ordinary purposes.

(2) PROJECTORS. Employing latest principles of easy threading, with special 1,000-watt incandescent lamps. Lenses supplied to suit all requirements. Constructed to conform with Fire Regulations.

(3) LOUDSPEAKER. Latest type with cone moving coil unit and Directional Baffle.

(4) SCREEN. Collapsible pattern, size 10 ft. square, made of special non-creasable silk.

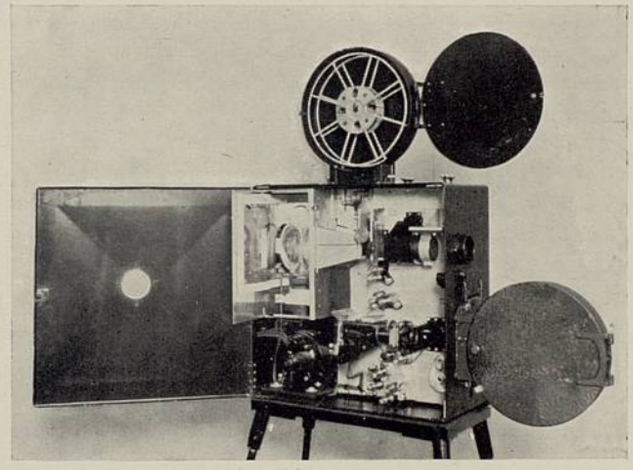
The qualities which have so firmly established the name R.C.A. have been developed to high degree in this Portable Model, and we guarantee that the reproduction obtainable is in every way equal to that in the World's Finest Picture Houses.

Interested parties are invited to apply immediately for our Illustrated Booklet describing the equipment in detail

R.C.A. PHOTOPHONE LTD.
FILM HOUSE
WARDOUR STREET
LONDON, W.1

Telephone: Gerrard 5252 Telegrams: Ircapp, Westcent, London

THE R.C.A. PORTABLE PROJECTOR



ENTIRELY MAINS DRIVEN
USES FULL SIZED FILM

WEIGHT 790 lbs.

NOT A TOY, BUT CAN BE WORKED BY AN UNSKILLED OPERATOR

Hall B, Stand 1 **Western Electric Co. Ltd.**

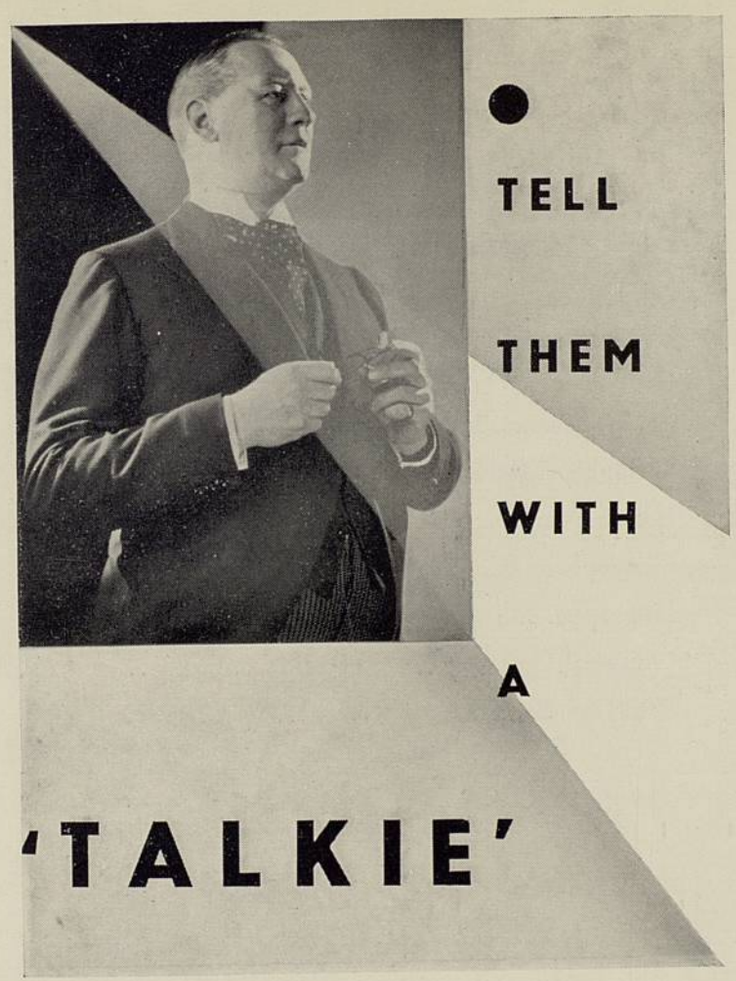
WESTERN ELECTRIC IN THE EDUCATIONAL FIELD

WESTERN ELECTRIC, after 67 years' experience in the operation and maintenance of the finest Continental Telephone Service in the world, brought their knowledge gained from this source to the problem of talking motion pictures. Their Research Organisation, famous throughout the world as the Bell Laboratories employing 3,500 people exclusively engaged in sound transmission problems, spent many years in preparing the ground before the first talking motion picture was presented as a medium of entertainment in August 1927, and from these beginnings the organisation has been extended throughout the world, until to-day over 7,000 theatres are installed with the famous Western Electric Sound System, and of this number over 1,000 are operating in the British Isles.

Over 90 per cent. of the talking motion pictures exhibited in the world cinemas are recorded on the Western Electric Recording Systems, which are also used by the major Gramophone Companies of the world for recording their product.

As the long experience in the Telephone Field formed the basis upon which the problems of the talking motion picture in the Entertainment Field were solved, so in an even greater measure has the great experience gained in the recording and reproduction of these pictures given this organisation great precedence in solving the problem of educationists in using this mechanical aid as a means of instruction and education in schools and colleges.

The Directors of Western Electric Company Ltd., Bush House, Aldwych, London, W.C.2, invite educationists to consult their experts on every phase in the recording and reproduction of talking motion pictures in the Instructional Field. They also offer to architects the benefit of their experts' advice on the subject of acoustics, derived from analysed acoustical surveys of over 3,000 halls and cinemas, so that every new school or school building may have a hall in which talking motion pictures may be shown to best advantage.



SECTION 2

Gramophone and Radio

Mezzanine Floor, Rooms 36 & 37 Baird Television Ltd.

TELEVISION

THIS EXHIBIT consists of two models of the Baird Standard Commercial "Televisor" Receiver, one of which is connected by land line with the Baird Studio at Long Acre, London. Demonstrations of Television will be given each day at hours to be appointed, the subjects being situated at the above mentioned studio. The wireless amplifier used in conjunction with the "Televisor" will also be on view, and, in addition, a "Televisor" Receiver without the main casing, in order that the various component parts of the instrument may be examined, together with the method of assembly. All equipment is of the standard commercial type now being sold to the public.

Literature is available on the stand, and Messrs. Baird Television Ltd., 133 Long Acre, W.C.2, will be pleased to reply to any enquiries on the subject of their equipment.

HISTORICAL DEVELOPMENT

A brief statement of the historical development of Television will be of interest. The original experiments were begun by Mr. JOHN L. BAIRD in 1923, when shadowgraphs were produced. The first public demonstration of Television, by light reflected from the object, was given in April 1925. During January 1926 Mr. Baird demonstrated apparatus giving true Television in light and shade to members of the Royal Institution. The apparatus then used is now exhibited in the South Kensington Science Museum. Subsequent developments occurred in the following sequence:

1926 (Dec.)	Opening of first experimental broadcasting station for Television.
1926 (Dec.)	Demonstration of Television of objects in total darkness (Noctovision).
1927 (May)	London to Glasgow line transmission.
1928 (Feb.)	London to New York wireless transmission.
1928 (July)	Television by ordinary daylight.
1928 (July)	Colour television.
1928 (Sept.)	Stereoscopic television.
1929 (Mar.)	Official demonstration to G.P.O.
1929 (Sept.)	Daily public broadcasts of vision.
1930 (Mar.)	Daily public broadcasts of vision and sound.

1930 (July) Screen television at London Coliseum.
1930 (Aug.) Transmission of talking films to London Coliseum.

PRINCIPLE OF TELEVISION

Television is the transmission of vision by electrical means to a distant point in a manner analogous to the transmission of sound by the telephone and broadcasting. The method employed in the present Exhibition is to scan the object to be televised in the studio at Long Acre by a rapidly moving ray of visible or invisible light.

EXTERNAL VIEW OF "TELEVISOR"

The reflected light from the object activates light sensitive cells, which modulate a current in direct proportion to the intensity of reflected light at any particular instant. The amplified impulses are received by either wire or wireless, exactly synchronised, and made to regulate the glow of a flat electrode neon lamp in the Televisor Receiver. The moving image is built up of similar elements of light intensity, giving the appearance of continuity of movement through the phenomenon of retentivity of vision.

EDUCATIONAL ASPECTS

The educational factors inherent in Television include the psychological effect of instantaneous observation of phenomena as they occur. The attention and interest of students and the public are greatly enhanced by the ability to see and hear simultaneously. The features and personality of the speaker or singer are faithfully

transmitted. A lecturer can illustrate his subject by showing the objects he is discussing and make the information clear by sketches, photographs and diagrams. Any type of printed characters may be transmitted. Television may be received in the home or on a screen clearly visible to the largest audiences. Talking films may be devised and transmitted for greatly differentiated educational purposes. It will be realised from the foregoing that the present potential educational position, apart from future possibilities, is already of immense value.

"TELEVISOR" WITH COVER REMOVED, SHOWING MECHANISM

A Television Society has been formed to correlate the discoveries and inventions of numerous professional and amateur workers and to disseminate information likely to further this new aid to visual means of communication as applied to the purposes of education. The first President of the Television Society was the late LORD HALDANE, founder of the British Institute of Adult Education.

The headquarters of the Society are at 4 Duke Street, Adelphi, London, W.C.2, from the Secretary at which address further information can be obtained.

First Floor,
Rooms 103 and 105

British Broadcasting Corporation

THE CONTRIBUTION OF BROADCASTING TO EDUCATION

(I) ADULT EDUCATION

LOCAL EDUCATION AUTHORITIES, universities and many voluntary educational bodies, are now realising that broadcasting has an important part to play in adult education. Wireless discussion groups are being formed all over the country in increasing numbers. These groups perform two functions in relation to the ordinary organised adult education classes of the country. They can be used as an aid to classwork. Many tutors and lecturers have asked their students to listen to series of wireless talks given by experts on subjects related to their class work. Discussion groups also act as a recruiting agency for more organised classes. Many people who are not prepared to join a formal adult class are attracted by the informality of a wireless discussion group. Many groups, too, are organised in private houses. In this way broadcasting is bringing education to the firesides of the country and helping to bridge that gap which has grown too wide—the gap between education and recreation. This of course applies just as much to the individual as to the group listener, and the evidence of public libraries shows that broadcasting has had a considerable effect on the reading of the general public.

The arrangement of the educational talks is now in the hands of the Central Council for Broadcast Adult Education, a body which consists of representatives of the Education Authorities, the universities and the voluntary bodies. The Chairman of the Council is the Archbishop of York. The Council also directs the follow-up work at the listening end. Reports are obtained from all discussion groups and help is offered to all those interested in the formation of groups. A Programme of Broadcast Talks is printed three times a year, which contains syllabuses of each educational series and suggestions for reading in connection with the talks. In connection with some series Talk Pamphlets are issued, which contain summaries of the talks, illustrations and other follow-up work. Through its Area Councils, of which four have now been formed, the Council is able to keep in close touch with those undertaking follow-up work and to organise periodic meetings for group leaders. The Council is also concerned with the important problems of training group leaders, and has given bursaries to summer schools for the training of leaders.

(II) SCHOOLS

A Central Council for School Broadcasting has also been set up and upon it the B.B.C. has devolved the educational responsibility for the service of broadcast lessons for schools. This Council has established machinery which enables all those interested to contribute their ideas and experience to the work of developing the use of the medium for school education, finding out by experiment what part broadcast lessons can play in the various subjects of the curriculum, and planning and supervising suitable courses of lessons.

Broadcast lessons are intended to supplement the class teacher's work, not to replace it. Their usefulness depends upon the skilled co-operation of the class teacher, upon whom must necessarily fall the duties of co-ordinating the broadcast course with the concurrent school course, of preparing for each lesson, of securing suitable listening conditions, and of encouraging the pupils to undertake the follow-up work and reading suggested by the teachers at the microphone.

For more than five years pioneers among teachers all over the country have been experimenting in the use of the lessons, and it is upon their experience that the confidence of the Central Council rests. The chief difficulty in the way of wholesale development hitherto has been reception, but the Council are taking steps to ensure that all schools may in future be properly advised as to the initial choice of their receiving set and loudspeaker. Given good reception it would appear that the child very quickly learns to listen attentively, and to discount the obvious disadvantages of having an unseen teacher. The Council has abundant evidence to show that interest does not wear off with novelty.

The lessons are broadcast throughout three terms of twelve, ten and eight weeks respectively, which coincide roughly with the usual school terms but allow a margin at each end to cover variations in holiday periods. They are restricted at present to afternoon hours.

Thus any school in the country, which can procure suitable apparatus and where the teacher is willing to co-operate, may receive each afternoon of the week for a large part of the academic year some stimulating addition to its resources—a talk on social history, constructed from contemporary sources, which will supplement the ordinary school lesson by giving a picturesque background to historical facts; a talk by a field naturalist on out-of-door phenomena week by week; a music lesson from Sir Walford Davies; practice in listening to French spoken by an educated Frenchman; talks on Biology and Hygiene; talks on English speech; travel talks by various travellers—all these are now brought within the reach of the poorest school in the country—a contribution which it is generally recognised we cannot afford to ignore.

First Floor, Room 123 Columbia Graphophone Co. Ltd.

THE COLUMBIA Graphophone Company Ltd. wish to call special attention to their exhibit. Records of School Marches, Folk Dances, Songs, Chamber Music and Orchestral Works can be heard at any time and special recitals have been arranged—see separate Time Table.

Other records of special interest are of lectures by eminent men on subjects other than music. These are published by Columbia for the International Educational Society, 26 Buckingham Gate, S.W.1

Among the records to which special attention is called are:

"THE COLUMBIA HISTORY OF MUSIC," Volume I, Eight Records

THE BEGINNINGS OF FRENCH "NOS AMIS FRANÇAIS," Six Records

These records fully illustrate the educational possibility of visual and aural aids to learning and are specially brought to the notice of visitors to the Exhibition.

Information and advice are always available from

COLUMBIA GRAPHOPHONE COMPANY LTD.
(EDUCATIONAL DEPT.)
102-8, CLERKENWELL ROAD, LONDON, E.C.1

Columbia

The Columbia Graphophone Company Ltd., as Pioneers in the science of sound reproduction, call special attention to their exhibits of modern gramophones, records, and radio in Room 123 (First Floor). The range of instruments exhibited include:

PORTABLE MODELS
TABLE MODELS
CABINET MODELS
RADIO PORTABLE AND HOME SETS
RADIO-GRAPHOPHONES
ELECTRO-GRAPHOPHONES
ELECTRIC PORTABLES

All are Columbia productions and these instruments represent the highest standard of perfection to which the science of sound reproduction has been brought. They are the standard of the world.

Information and advice are always available from

COLUMBIA GRAPHOPHONE COMPANY LTD.
(EDUCATIONAL DEPT.)
102-8, CLERKENWELL ROAD, LONDON, E.C.1

Columbia

Second Floor, Room 214 The Edison Swan Electric Co. Ltd.

EDISWAN

SOUND REPRODUCING INSTALLATIONS

have the distinct advantage of "flexibility." An equipment can be supplied to operate one loudspeaker for a small room or 20 or more loudspeakers for a large hall. Further, these equipments can be operated from a microphone, gramophone or radio set. The 25 watt equipment gives an undistorted acoustic output of 5 watts; to this can be added, in parallel, one or two 25 watt auxiliary amplifiers giving a total undistorted output of 15 watts. The 70 watt equipment gives an undistorted acoustic output of 20 watts, which can be increased to 60 watts by the addition of auxiliary amplifiers.

So far as possible the installations have been constructed of metal and fireproof material to conform with the regulations laid down by the Institution of Electrical Engineers, and to meet the requirements of Insurance Companies.

The famous R.K. Moving Coil Loudspeakers are used, ensuring the highest possible quality of reproduction, particularly as regards speech. Single and twin turntable electrically-operated gramophones, with electric pick-ups, microphone and amplifier, and electrically-operated radio sets are also available. These equipments may be obtained for operation from A.C. or D.C. electric mains and are extremely simple to instal and operate.

All connected with the lecture theatres of Schools, Colleges, Hospitals and other Institutions should make a point of hearing these compact and efficient aids to the dissemination of knowledge.

THE EDISON SWAN ELECTRIC CO. LTD.
RADIO DIVISION
1a NEWMAN STREET, OXFORD STREET
LONDON, W.1

How Much Do Your Students Miss?

Teaching by the spoken word is an invaluable process, yet so much fails to reach the fertile mind of the student because the lecturer is for some reason inaudible. A vital point is unheard and fails to find a place in the notebook; the trend of philosophical argument is lost and the student misses something of extreme importance.

EDISWAN

SOUND REPRODUCING INSTALLATIONS

carry the valuable message to the furthermost corners of the lecture theatre—and without the necessity for the lecturer to unduly raise the voice.

Overflow lectures may be addressed in adjoining rooms by means of these equipments. Actual demonstrations may be given with the aid of gramophone records.

THE EDISON SWAN ELECTRIC CO. LTD.
RADIO DIVISION
1a NEWMAN STREET, OXFORD STREET,
LONDON, W.1

First Floor, Room 118 **Gramophone Co. Ltd.**

"HIS MASTER'S VOICE"
EDUCATION DEPARTMENT

We call attention with pardonable pride to the general acceptance, obtaining now, of the educational use of the gramophone. Ten years ago the Management of the Gramophone Company Ltd. ("His Master's Voice") founded the Education Department to develop the best use of the gramophone. Lectures of purely educational value were given *gratis* all over the country in schools and training colleges and to teachers' associations. This valuable work continues unabated, the lecturing staff now numbering three experienced and well qualified musicians. Many Directors of Education have arranged lecture tours for us, and have expressed high appreciation of them. In addition to lectures, the department issues a large amount of educational literature, and a number of records of great interest.

We hope all visitors to the Exhibition will not fail to hear: Sir Walford Davies' splendid series of "Talks on Melody": Instruments of the Orchestra: Folk Dances: the new Rhythmic records for small children: Mrs. McBain's "Playways" records: French and English Language records: and a number of other recordings which bear out the truth of our slogan—"Greatest Artists—Finest Recording." A set of beautifully coloured charts of the "Instruments of the Orchestra" will be on sale and will fulfil a long felt want.

Look also at the "Golden Treasury" booklets, which are mines of information—Volume I, Bach and Beethoven; Volume II, Wagner —and are specially designed to help the gramophone user. Then there is the well-known "How to Use the Gramophone in School" Series *(gratis)* of which thousands of copies have been distributed. I, Listening to an Orchestra; II, Picture and Story Music; III, The Gramophone: How and Why; IV, Schubert; V, The Rhythmic Road to Music Land. There will, of course, be a special display of suitable instruments for educational use. Altogether a warm welcome and a most interesting time await you in Room 118.

Hall B, Stand 7 **Linguaphone Institute**

THE MODERN WAY OF LEARNING LANGUAGES

Foretold by H. G. Wells
Commended by Bernard Shaw

THE SCIENCE of teaching, like every other living science, is constantly receiving contributions from other spheres of activity. For instance, when Mr. Edison invented the talking machine its educational possibilities were not appreciated to anything like the extent of its capacity for amusement. Gramophones have been developed chiefly to entertain. It has remained for Mr. J. Roston, the inventor of the Linguaphone Method of Language Teaching, to capitalise fully the enormous educational possibilities of the gramophone.

IF YOU CANNOT LIVE ABROAD

The ideal way of learning a foreign language is, of course, to go abroad and live the life of the country. The next best method has hitherto been individual tuition by a native teacher.

Now, however, there is really no need for anything so expensive as this. Over 2,000 Schools and Colleges have now discovered that, whether they number upon their staff a distinguished foreign-born language teacher or not, the gramophone harnessed and organised for the purposes of language teaching by the Linguaphone System cannot fail to be of great value and assistance.

HOW THE EAR AND THE EYE ARE ENLISTED

A complete Linguaphone Course consists of as many as fifteen double-sided records, each of which is a definitely planned step towards the goal of fluency and complete understanding of the language. These records are interpreted, annotated and made immediately comprehensible by the accompanying text-books which are fully illustrated and keyed to fit the oral lessons.

There is a Linguaphone Course for almost every living language of any importance from the literary or commercial point of view, including some of the oriental languages like Persian and Chinese.

THE TRUE NATIVE ACCENT

The Linguaphone Method is therefore not merely a few odd gramophone records spoken in foreign tongues, it is always a most carefully graduated series of lessons worked out by expert educationalists and spoken by well-known native language teachers.

FIRST YOU LISTEN, THEN—

YOU FIND YOURSELF SPEAKING FRENCH *like a Parisian!*

Choose the language you would like to know, and in a few weeks you will find yourself speaking it fluently and with a perfect accent. That is the amazing thing about the new way of learning languages —originated by the Linguaphone Institute—which has proved so successful that it is already being used by countless students all over the world and in over 2,000 schools and universities.

SEE HOW EASY IT IS

You just sit down in comfort and listen to a series of records, on your own gramophone, spoken by expert native teachers. As you listen you follow in the illustrated key-book the printed words that your teacher is using. Very soon you become so sound-perfect and word-perfect that you are able to begin talking, reading and writing quite fluently!

CALL AT STAND B7 for personal Demonstration

Write for 24-page Book and FREE TRIAL

Whether you wish to learn a new language for business reasons, for travel, or for a better understanding of literature and the arts, you will find that the quickest, easiest and most interesting way is by Linguaphone. Write today for the FREE 24-page book which tells you all about the Linguaphone method, and how you can obtain any Linguaphone Course for a week's trial in your own home.

LINGUAPHONE
LANGUAGE INSTITUTE

If you cannot visit our Stand—POST THIS COUPON

COURSES IN:

French	German
Spanish	Italian
Russian	Dutch
Irish	English
Afrikaans	Esperanto
Persian	Chinese

Literary Courses and Travel Talks for Advanced Students

TO THE LINGUAPHONE INSTITUTE,
86 Napier House, 27 High Holborn, W.C.1

Please send me (post free) your 24-page book about the quick, new and easy Linguaphone way of learning languages.

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Hall A, Stand 9

Universal Gramophone and Radio Co. Ltd.

TRUVOX

In EDUCATION it is all important that clarity and purity of voice shall be provided so as to assist the brain to absorb knowledge with the least effort. Instruction imparted by gramophone records can only be TRULY reproduced *via* the "TRUVOX" sound production system, which is scientifically designed, and therefore has no distorted or artificially created tones or notes.

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AMPLIFIED GRAMOPHONES give a perfect reproduction of voice unrivalled by any other form of sound production. They are the ideal method of conveying lectures by Educational Experts to your audiences.

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"TRUVOX"

Second Floor, Room 216 **Will Day**

WILL DAY COLLECTION

Kindly lent by William Day, Esq., 19 Lisle Street, W.C.2

Most of us at one time or another have at any rate in our earlier years possessed small picture books whose leaves when turned over quickly gave an illusion of persons or animals in motion. Not all of us when we go to the cinema realize that we only see there a highly-developed form of these little books. Mr. William Day, part of whose wonderful collection is here shown, has traced the lineage of the cinema far beyond the little books of a generation or two ago. His researches prove, and this collection demonstrates, that our ancestors stumbled on certain basic ideas long ago, as long ago in fact as the time when the cave men of Altamira in Spain painted and drew twenty-five thousand years ago. One of these famous drawings, a copy of which is shown, depicts a wild boar; but to give life and energy to his work the artist painted the legs in the correct alternative positions which they occupy when the animal gallops. Here we have in primitive form the principle of the cinema. Later ages with more static ideas seemed to have tried very little to represent motion in art, until we come to quite modern times, when we find futurists and others reverting to the device of the cave dwellers. But to satisfy the healthy restlessness of children, toy makers, anyhow, of the seventeenth century and probably earlier, had begun to make toys and to use devices which in various ways so deceived the eye that an impression of motion was received. What more does the cinema do? Some of the toys, numerous examples of which are shown in Room 216, are marvels of ingenious simplicity, and they lead step by step to the modern cinema, which, as so often with new things, is a possibility not because it involves any new principle, but because invention in other fields, in this case photography, has made it possible to show series of pictures in quick succession on a scale our predecessors with their rudimentary technical equipment could not contemplate.

Cards explaining each exhibit are placed in the cases and too many pieces all of striking interest are displayed to make a detailed catalogue possible; but special attention ought perhaps to be drawn to the Wayany Golek figures from Java which were used centuries before our era for teaching history, the anamorphoscope *circa* 1635, the zoetrope and choreutoscope both about 1860, and the apparatus of R. W. Paul, also called an anamorphoscope, which is, in fact, the first cinema machine ever used. Of the valuable books exhibited we would specially mention the work describing Descartes experiments in lens grinding (1677), and the original copies of the first *Proceedings of the Royal Society* of about the same date, which contain papers by Newton on the corpuscular theory of light and other matters.

SECTION 3

Small Projectors, Epidiascopes, Lantern Slides, etc.

Hall A, Stand 4 **C. Baker**

C. BAKER

has realised for many years the value of the visual image as an aid to the simplification of teaching, and has designed and manufactured many forms of instruments with that object in view.

Foremost among the numerous pieces of scientific apparatus manufactured by this firm and found to be of such enormous value to Educational Authorities are the three instruments illustrated on the opposite page.

The first is invaluable where either low or high power objectives are to be used. As a 250 watt lamp is supplied ample illumination is available either for recording or projection for class work.

The second illustration shows the "School Micro-Projector." This is the cheapest and simplest form of projector for microscope slides yet offered to the public. It includes the "Nature" Microscope, which can be detached in a moment and used in the ordinary way, and gives initial magnifications of 40 to 220 without any change of optics. The lamp house is fitted with a 5 amp. 6 volt lamp, which with condensers gives ample illumination for the magnifications mentioned above.

The "Metron Episcope" is the simplest and cheapest type of Episcopic Projector on the market. Place your picture on the tray, switch on the current and an image in natural colours is projected on the screen without any further manipulation.

We also manufacture an Epidiascope with one or two 500 watt lamps, which also projects lantern slides in addition to pictures, maps, etc. Prices from £25.

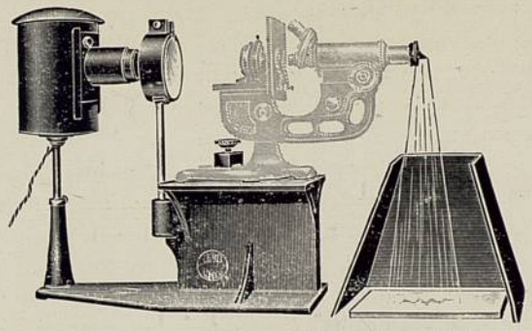
C. Baker also manufactures a very wide range of microscopes, and we would particularly refer to their well-known B.L.M. and "Nature" series which are being used in most of the Universities and Schools throughout the Empire, and giving the greatest satisfaction.

We strongly urge that, if possible, a personal call should be made at their showrooms at 244 High Holborn, London, W.C.1, or, alternatively, write giving full particulars of your requirements and quotation with catalogues will be sent.

C. BAKER, 244 HIGH HOLBORN, LONDON, W.C.1

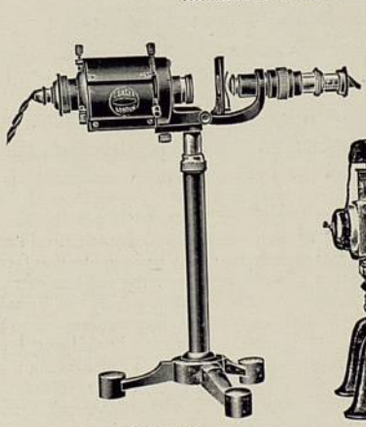
C. BAKER'S

visual aids to teaching are incorporated in the following three instruments acknowledged to be of the greatest value by Education Authorities:



METRON REFLEX DRAWING OUTFIT

With this apparatus the widest range of objectives can be used and ample illumination is available. Price £5 5s.



SCHOOL MICRO-PROJECTOR

This outfit includes the Nature Microscope and gives initial magnifications 40-220. Price £6 10s.

METRON EPISCOPE

The most efficient, simplest and cheapest Episcope. Price £20

ALL BRITISH MADE

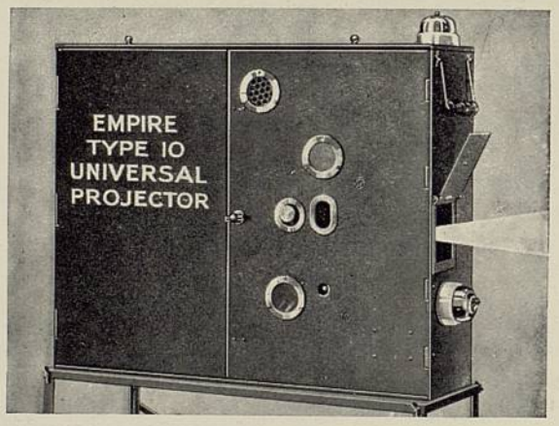
244 HIGH HOLBORN, LONDON, W.C.1

Room 1 **Ensign Limited**

AIDS TO VISUAL EDUCATION

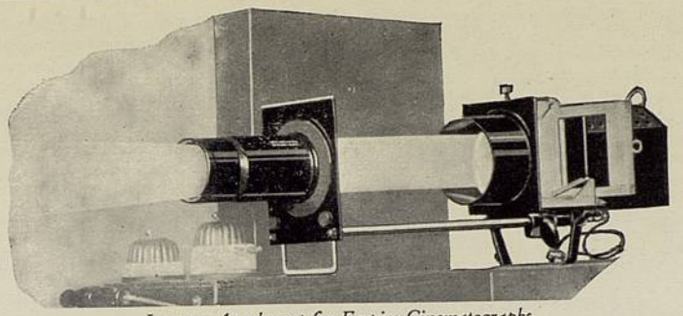
After twenty-five years of steady pioneer work in the production of cinematograph apparatus for educational purposes, with little or no recognition, sufficient interest has been taken during the last five years by many distinguished workers in the cause of Visual Education to justify the production of the following outstanding instruments by the House of ENSIGN LIMITED.

The Standard 35 mm. Transportable Cinematograph—usable on any voltage without special electrical installation, or any structural alterations in the building in which it is to be installed—is well exampled by the EMPIRE TYPE 10 UNIVERSAL CINEMATOGRAPH.



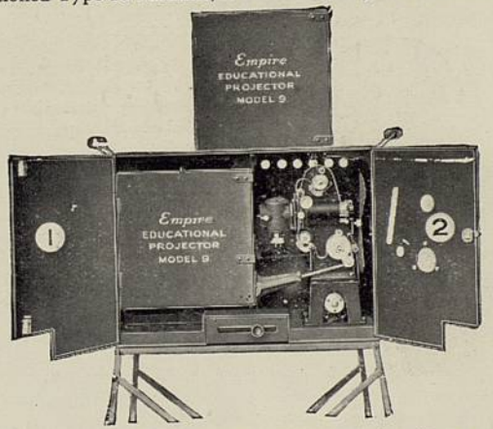
The illustration gives a general idea of the completeness of this outfit. The essential factor of Safety is covered by the fact that in its construction every consideration has been given to the interpretation of the Cinematograph Act 1909-20 Part II. The simplicity of manipulation has been well considered, for it should be possible for the professor or a student to be able to operate the machine without any technical knowledge. The brilliant illumination and perfect steadiness of the picture are two factors of paramount importance in the prevention of what has been the subject of much discussion, namely "eye-strain"; the adaptability of a machine which can be taken from one lecture hall to another irrespective of its size, with a limit of throw of 70 feet and a maximum picture of 12 feet, are points which are embodied in this outfit; also such factors as its operation by a simple motor, the stopping and so showing a still picture enabling the subject under review to remain in the gate of the machine for a reasonable period for lecture purposes. Furthermore, as in visual instruction, there are many subjects which it is not always possible to demonstrate by means of the film. An attachment for the projection of lantern slides is available, so that in the event of the film arriving at a point of interest, when it is necessary to show a diagram on a lantern slide by a single turn of the switch, the film is put out of action and the lantern slide is merged on to the screen brilliantly illuminated. The efficiency and simplicity of this machine may be indicated by the fact that it is installed and in use where the mental calibre of the audience and operators is not of a high order and where safety is the greatest feature, namely in many asylums under the control of the London County Council.

The price of this Outfit is Seventy-five Pounds (£75)
Lantern Slide Attachment Ten Pounds extra (£10)



Lantern Attachment for Empire Cinematographs

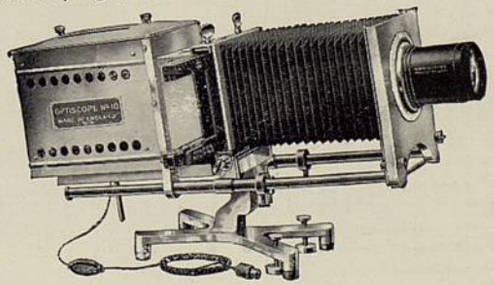
Another type of Cinematograph which is not so complete in its features but at the same time is useful, self-contained and having many features which are embodied in the above mentioned Type 10 Machine, is the MODEL 9. For the small classroom



Empire Type 9 Education Cinematograph

where projection is only likely to be made under strictly private conditions, not coming under the Cinematograph Act, this is a machine at an economical price of £25 (Twenty-five Pounds) which is very highly recommended.

The OPTICAL LANTERN still holds a very imposing position where simple or scientific projection is in vogue and where the moving picture is not essential. In the series of OPTISCOPES, the illuminant of which is a high quality gas-filled lamp with "bunched" filament and in which the reflector is embodied in the lamp, we have a type of instrument with a



Optiscope No. 10

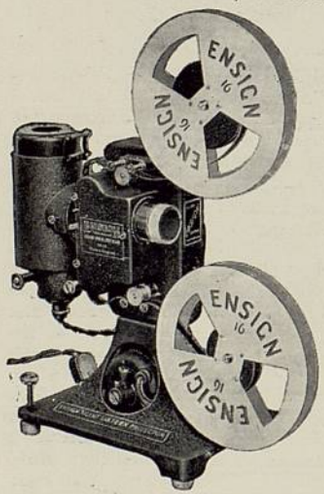
variety of simple movements, an optical system quite unique, a lens equipment invented by Mr. A. C. W. Aldis which, as a composite outfit, gives a marvellously brilliant illumination and a perfect flatness of field—such an essential feature in scientific projection.

This series of Lanterns, which are the outcome of some forty years' experience in optical projection by the House of ENSIGN LIMITED, it may be safely said are the last word in their class. The fact of their being adopted by the leading education committees and scientific departments of our greatest universities must be a recommendation in itself.

For the Lantern pure and simple the ENSIGN FILM-SLIDE, which cuts out the unnecessary bulk and expense incurred in the transport of glass lantern slides, is an item of inestimable service. See illustration on page 61.

THE SUB-STANDARD 16 MM. CINEMATOGRAPH

The Cinematograph as a visual educator has been brought with enormous force into this sphere by the introduction of this small type of machine and film. Its capacities are almost on a par with the Standard size apparatus, with these outstanding advantages: extreme portability, the use of non-inflammable films and the economy which such film brings about, and the fact that it is not affected by regulations or restrictions either in regard to fire prevention or building alterations, and the apparatus can therefore be used under any conditions.

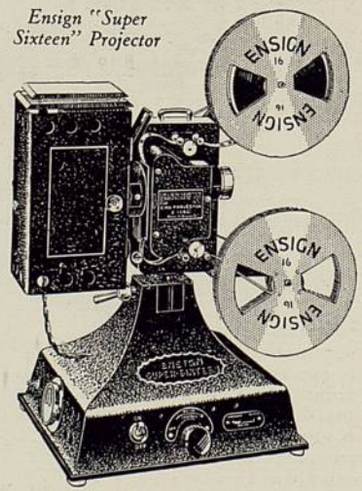


Ensign "Silent Sixteen" Projector

The ENSIGN "SILENT SIXTEEN," as one of the popular models has been named, is suitable for the intimate classroom where a brilliantly illuminated 6-foot picture can be projected at a throw of 25 feet. The picture is flickerless and the manipulation is almost childishly simple.

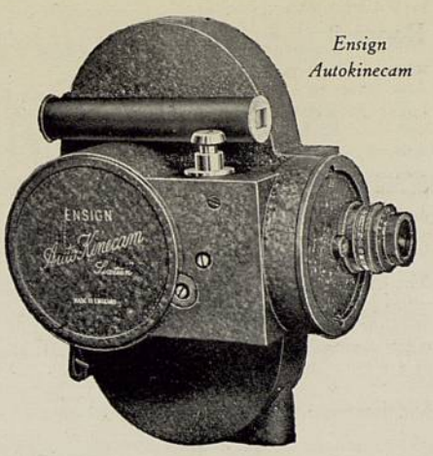
There is another category under which this type of projector has developed, by the introduction of a super model, known as the ENSIGN "SUPER-SIXTEEN." It is as simple to manipulate as the more popular model already mentioned, but its refinements are manifold. It is fitted with a high power illuminant which enables it to be used in large size lecture halls, where the screen is a distance of 50 feet from the apparatus, at which throw a picture 10 feet wide can be projected. One of its many movements of particular utility enables any portion of the film to be repeated by means of an automatic rewind, which is very useful if a lecturer desires to stress any special feature in a film, and this rewind also enables the picture to be projected reverse-wise to show motion under abnormal conditions.

Ensign "Super Sixteen" Projector



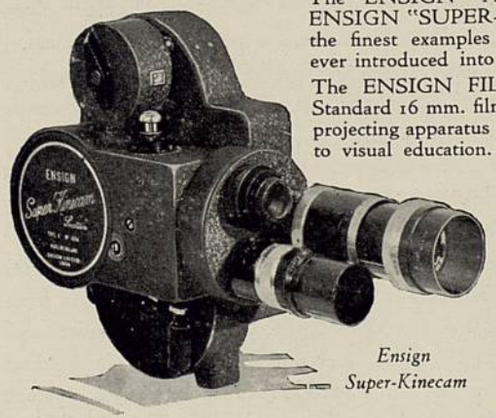
The Series of ENSIGN "AUTOKINECAM" Cameras of this sub-standard size that take pictures showing normal, slow and ultra-rapid movements, with equipment available that permits of scientific, microscopic and tele-photographic subjects being taken with comparative ease, are an aid to the professor in visual education, the importance of which it is difficult to exaggerate. Not only does it permit the professor to actually produce subjects which possibly in the ordinary course are not obtainable, or subjects which are of especial interest in relation to the matter under review, but it enables him to demonstrate practically the functioning of the camera, its mechanism and optical systems, which must always be a matter of great interest.

Ensign Autokinecam



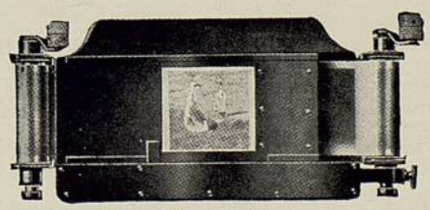
The ENSIGN "AUTOKINECAM" and ENSIGN "SUPER-KINECAM" are two of the finest examples of British craftsmanship ever introduced into the photographic world.

The ENSIGN FILM LIBRARY of Sub-Standard 16 mm. films immediately places the projecting apparatus in a real position of utility to visual education. The subjects included therein are chosen from international sources, and the economy in the cost of hire eliminates that stumbling block to the use of the Cinematograph as a visual educator which has so much held back its progress, and in addition to scientific subjects a range of first-class comedies and dramas are available, for wherever the Cinematograph is installed there are always times when such apparatus can be used for amusement purposes.



Ensign Super-Kinecam

In the limits of these pages it is impossible to detail the vast range of apparatus available and the facilities offered by Messrs. Ensign Ltd. Their Demonstration Showrooms at 88-89 High Holborn are fully and practically equipped and are available to interested callers, while their special Cine Production Department for the creation of special scientific and commercial films is situated at 40 Shaftesbury Avenue, London.



Ensign Film-slide Carrier

Room 2 **Kodak Limited**

KODAK
EDUCATIONAL FILMS

SUPPLY usually waits on demand, but it has been one of the secrets of Mr. George Eastman's success that he has, time and again, *anticipated* the requirements of the public.

Mr. Eastman, when he invented the roll film, was mainly instrumental in making amateur photography universal. It was the roll film, too, that made *cinematography* possible. Now we owe a further debt to his foresight, energy and courage.

Mr. Eastman without waiting for a demand for educational films, a demand wide enough to make their manufacture a commercial proposition, set to work to produce at very great expense a large number of valuable instructional films. Some of these are suited more particularly to American educational requirements, but a far larger number are of international usefulness.

Kodak Educational Films embody the results of the very latest educational research on the use of visual aids in teaching. The nature of their contents, and the plan on which they are organized, render them extremely flexible and thus make them adaptable to a range of use far wider than one would at first suppose from a simple examination of the film catalogue.

The remarkable success of these films is attributable largely to the manner in which they have been prepared. After a careful survey of curriculum requirements and school needs, a subject is selected in which motion is an essential feature. Extensive research is conducted to secure up-to-date and accurate information. From the data thus accumulated a scenario is prepared by practical educationalists. The scenes specified are produced by competent camera men under the direction of first-class producers. The film is then edited and titled, and before being finally approved is reviewed by teachers and specialists in their respective subjects. As a result, Kodak Educational Films have unusual richness and accuracy of content. In some instances it has been found an advantage to issue with the film a carefully planned Teachers' Guide, thus helping the teachers to derive the utmost value from the film lessons. This, however, has not been found necessary in every case as other films are completely self-explanatory. All Kodak Educational Films are made on 16 mm. safety film and are projected by means of one of the three models of "Kodascope" Projectors.

"Kodak" Instructional & Educational Films

The film is to-day taking its place as an educational factor. The demand for Instructional and Educational Films is now coming from all over the country, and "Kodak" Limited have seen to it that there are supplies to meet the demand. The "Kodascope" Library, situated in Kodak House, Kingsway, W.C.2, now contains a very large selection of both Instructional and Educational Films. These films embrace the following subjects :—

Geography, Travel, Nat. Hist., Hygiene, Applied Art, Science, Industrial & Technical Films.

These films have been made by professional producers of the highest standing, under the supervision of educationalists with an intimate knowledge of their respective subjects. Kodak Instructional and Educational Films are now being used regularly in schools as well as museums and other public institutions of an educational nature. They are being shown to classes by means of the "Kodascope," the Kodak 16mm. cinematograph projector, operated from the ordinary school or house electric light circuit. The film is Cine-"Kodak" *Safety Film*.

Visit Room 2

and see these films screened. Among the Instructional and Educational films from the "Kodascope" Library being shown, are some dealing with Engineering and Natural History, and a cleverly contrived exposition of Einstein's Theory of Relativity.

Please ask for a Library Film Catalogue and other literature dealing with 16mm. cinematography.

Kodak Limited, Kodak House, Kingsway, London, W.C. 2.
Room 2 at this Exhibition.

Hall B, Stand 4 **Newton & Co. Ltd., 43 Museum St.**

Educational Lantern Slides

THE VALUE of the still picture for visual education has never been recognised more universally than in the present day, when those responsible for the education of both the adult and juvenile minds have stressed so strongly the necessity for teaching through the eye as well as the ear.

The still picture offers the most satisfactory method of co-ordinating these two principles, whilst ensuring the predominance of the "personal element" by keeping the illustrations subordinate to the lecture. It is well known that lantern slides can be used without detracting in any way from the personal influence exercised by the teacher with his special knowledge of the subject. This is a very essential factor in all educative work, and one that is perhaps allowed too readily to pass into the background when mechanical aids are brought into service. It is noiseless, and the absence of movement prevents any distracting influence, whilst allowing the lecturer the fullest opportunity of extracting the utmost teaching value from the scene projected, which can remain before the audience a sufficient length of time to impress itself thoroughly upon the minds of the hearers. Modern methods of projection also enable slides to be displayed satisfactorily in daylight, an asset to many day schools.

It is, however, essential that the slides projected should always be of the highest possible quality, and neither trouble nor expense have been spared in perfecting a variety of processes whereby this standard could be maintained.

Messrs. Newton & Co. Ltd. have pleasure in drawing attention to the following instructive groups of educational lecture sets of slides:

(1) An IMPERIAL GEOGRAPHICAL TEACHING SCHEME arranged by the Visual Instruction Committee of the Royal Colonial Institute, now the Royal Empire Society, comprising over 60 SETS on GREAT BRITAIN and the EMPIRE OVERSEAS, with full lecture notes.

(2) The HISTORIC CENTRES and chief ARCHITECTURAL features of GREAT BRITAIN and on FOREIGN TRAVEL.

(3) ENGLISH HISTORY and some of her "EMPIRE BUILDERS."

(4) Sets of ADVENTURE and ENTERPRISE, including the MOUNT EVEREST EXPEDITION; DISCOVERY OF THE SOUTH POLE; NANSEN'S POLAR EXPEDITION; WITH LAWRENCE IN ARABIA, etc., etc.

(5) Lectures on HYGIENE, HEALTH, MEDICAL and GENERAL SCIENTIFIC SUBJECTS, CHEMISTRY, etc., including SIX on MODERN ASTRONOMY prepared by the Rev. T. E. R. Phillips, President of the Royal Astronomical Society.

(6) Complete sets visualising many of the more important INDUSTRIES and MANUFACTURES of the world.

(7) AGRICULTURE and all branches of NATURE STUDY.

Messrs. Newton are also glad to announce the acquisition of many new Art subjects. Some thousands of reproductions of FAMOUS PICTURES from the world's chief galleries are now available.

Lantern Slides made from customers' own material.

Expert Photographers available for special work.

Special Discounts allowed to all Educational Institutions.

Catalogues giving full details of all slides and prices, including full hiring terms for England and Overseas, will be sent on application. For easier reference they are published in sectional form as follows:

1. Health: Medical Science, Hygiene, etc.
2. Science: Astronomy, Physics, Chemistry, etc.
3. Natural History: Agriculture and Nature Study.
4. Geology and Physical Geography.
5. Geography.
6. History.
7. Industries and Manufactures.
8. Architecture.
9. Art, Literature and Miscellaneous.
10. Scripture: Church History and Missionary Subjects.

Copyright *Newton & Co. Ltd.*

THE "ANSIDEI" MADONNA *Raphael*

Publishers & Manufacturers

NEWTON & CO. LTD.

NEWTONIAN TRADE MARK

43 MUSEUM STREET

LONDON W.C.1

Hall B, Stand 5 **Newton & Co., 72 Wigmore St.**

British-made Optical Instruments

FOR EDUCATIONAL PURPOSES

IT IS NOW a recognised fact that British made optical instruments can be compared for quality and workmanship, and efficiency of result, with the productions of any other country in the world. This particularly applies to Optical Projection Apparatus, such as standard Optical Lanterns for the projection of Lantern Slides, or Science Lanterns, which are so much used for the purpose of illustrating lectures where it is desired to show actual experiments projected upon the screen, and the now popular Epidiascopes, which have received so much attention during the last few years. All these instruments, however, lend themselves to very cheap and flimsy construction, and it is quite easy to obtain a perfectly good looking piece of apparatus which in practical use will be found to be very unsatisfactory, and in a very short time may even have to be replaced with something of sounder construction.

As manufacturers of Optical Projection Apparatus, Messrs. Newton & Co. consider that rigidity and durability are of primary importance, and their instruments are constructed in such a way that they may be relied upon to stand continuous and heavy wear in the lecture theatre or laboratory. Cast aluminium is very largely used for the construction of the bodies and other parts of the instruments, replacing sheet metal work with its attendant disadvantages.

During the past few years very great advances have been made in the construction of suitable objectives both for opaque and transparent projection, and the "Wigmore" series of lantern and epidiascope lenses, which are London made, may be compared with the productions of any other country.

Messrs. Newton have a world-wide reputation, and their lanterns are the last word in Optical Projection Apparatus. A catalogue of these instruments will be supplied on request, or if the reader's interest is for Epidiascopes, a special list of various standard models will be gladly supplied.

NEWTON'S
BRITISH MADE
OPTICAL PROJECTION APPARATUS

Epidiascopes

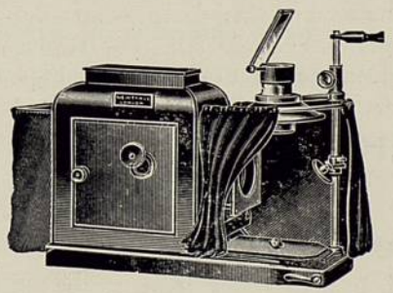
for the projection of
LANTERN SLIDES
and OPAQUE OBJECTS

The body is largely of solid cast aluminium, very light and rigid, finished black enamel. No movement of illuminant or optical parts necessary when changing from opaque to transparent projection or vice versa.

Optical and Science Lanterns

The
NEWTON SCIENCE
DEMONSTRATOR'S
LANTERN

is so arranged that it can be used for ordinary Lantern Slides, Demonstrations of Apparatus, Vertical or Opaque Projection, and also in conjunction with the Projection Microscope, Polariscope, Spectroscope, etc.



Price List sent on application.

Opticians to H.M. the King. **NEWTON & CO.** Established over 200 years.

Manufacturers of Optical Projection Apparatus for Educational Purposes

72 WIGMORE STREET, LONDON, W.1

First Floor, Room 126 **Ritchie Lennie**

FILMS VISIBLE IN BROAD DAYLIGHT

IN Room No. 126 on first floor will be found one of the most attractive features of this exhibition of visual aids to learning, namely the "Anti-dark" (Daylight) Cinema Outfit. By means of this remarkable apparatus films or slides can be shown in a room not darkened in any way, and the pictures upon the screen are as clear as those in any cinema theatre, without the dazzling effect upon the eyes prevalent in the latter when one is in close proximity to the screen.

The use of cinematographs in schools has been limited, owing to the necessity of darkening the schoolroom, which might cause panic in the event of a film catching fire.

THE "ANTI-DARK" OUTFIT IS DESIGNED TO PREVENT PANIC

Since the young mind invariably associates fear with darkness a flash in a darkened room might well cause panic, whereas the same flash in daylight would no more than attract attention. Apart from the matter of prevention of panic, the advantages of being able to conduct a class lesson in daylight by means of films or slides are obvious, and should appeal to a teacher.

By the removal of the necessity of darkening the room the great

objection to the general use of cinematographs in schools has been overcome, and by means of the "Anti-dark" Outfit this most valuable aid to learning may now be employed freely and with safety.

Non-inflammable films are now obtainable, but even with inflammable films, in the case of the "Anti-dark" Outfit, the only portion of the film which could catch fire would be that between the fire-traps on the spool-boxes, the flash of which in daylight would tend to amuse rather than to terrify.

The "Anti-dark" (Daylight) Screen and Tunnel can be employed in conjunction with the latest small size projectors, showing 16 millimetre non-inflammable films upon which there are no restrictions, thus any school, although not possessing a cinema-room equipped according to regulations, may yet have its Daylight Film lesson

The maker of the "Anti-dark" (Daylight) Cinema Outfit is Mr. Ritchie Lennie, 7 Kelvinside Terrace (West), Glasgow, N.W.

A further exhibit by Mr. Lennie is his "Anti-dark" Sunscreen, or window blind, which admits light but excludes heat and dazzling rays of sunlight. "Anti-dark" Sunscreens are weather-proof and waterproof, and so pliable that they can be wound upon a roller without cracking.

Hall A, Stand 2 **Sands, Hunter & Co. Ltd.**

The Uses of an Epidiascope

TEACHERS and lecturers in a large number of Public and Secondary Schools and other Educational Institutions are daily finding the Zeiss-Ikon Epidiascope an almost indispensable aid to their work. With this instrument the teaching of Geography, Botany, History and other subjects is simplified and made of greater interest to the student.

Maps, drawings, book illustrations, etc., can be shown on a Lantern Sheet in the colours of the originals. Solid objects such as botanical and mineral specimens, etc., can be placed on the Object Table and a greatly enlarged image in the colours of the original can be seen on the Lantern Screen by a whole class, thus avoiding the delay which occurs when specimens are handed round.

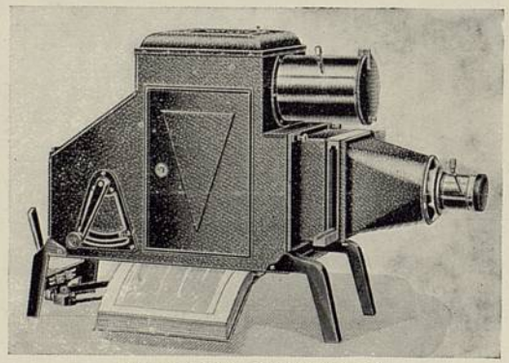
No special electric wiring is necessary for using the Zeiss-Ikon Epidiascope, it can be connected to the ordinary electric lamp holder or wall plug fitting. By simply moving one lever, the Zeiss-Ikon Epidiascope can be converted into an ordinary projection lantern.

An attachment can be supplied for projecting ordinary transparent microscopic slides

Corridor Stand **W. Edwards & Co.**

"Seeing is Remembering"

EPIDIASCOPES
MICRO PROJECTORS
LANTERNS
OPAQUE PROJECTORS
CINEMATOGRAPHS
AND ALL ACCESSORIES



EDWARDS' EPIDIASCOPE

Our products have won for themselves an excellent reputation and we are always pleased to quote and to advise as to the most suitable Projection Apparatus

W. EDWARDS & CO.

8a ALLENDALE ROAD, DENMARK HILL, LONDON, S.E.5

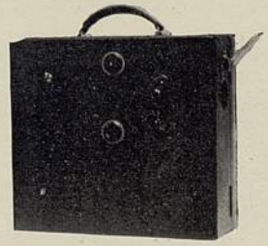
Phone: Rodney 4832 Telegrams: Edcohivac, Phone London

Hall A, Stand 11 **Visual Information Service**

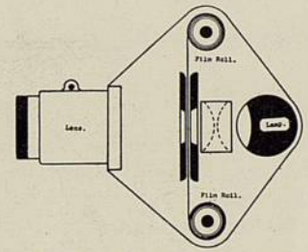
THE UNIT PORTABLE FILM LANTERN AND FILMSLIDE METHOD

Exhibited by Visual Information Service

FILMSLIDES are still pictures on standard non-inflammable cine-film. They afford the most economical and convenient method of illustrating group talks and general class-work. They are prepared from photos, diagrams, maps, letter-press, glass slides, etc. Also Visual Information Service offer a very wide range of stock filmslides on social history, economic geography, industry, health, etc. The cost of filmslides prepared to order is 3d. each; stock filmslides 1d. each, in series of 30 to 70 pictures. Hiring fee for stock series, 7d. or 1s. per week, according to length. A roll of 100 pictures can be sent through the post for 1½d.



The Unit Lantern.



The Simple Optical System.

The Unit Lantern is portable, soundly constructed, and easy to manipulate. Being entirely self-contained and carrying its own source of illumination, it can be used instantly, with no fitting up at all. The efficient silvered lamp gives a brightly illuminated picture 6 ft. wide, or a smaller picture in semi-daylight. The system is eminently adapted for travelling lecturers and adult education groups. Testimonials as to its practical value have been received from: Training Colleges, Extra-Mural Departments of Universities, the Workers' Educational Association, the National Council of Labour Colleges, Co-operative Guilds, Boys' Organizations, etc.

The price of the Unit Lantern complete is £9 5s.

Full particulars from:

VISUAL INFORMATION SERVICE
168a BATTERSEA BRIDGE ROAD
LONDON, S.W. 11

British Filmslide Producers and Makers of the Unit Portable Lantern

Telegrams: "Filmslides, Batt. London." *Telephone:* Battersea 0846

SECTION 4

General Section

Corridor Wall Exhibit **The Eugenics Society**

THE EUGENICS SOCIETY

WHETHER we regard human beings as so superior as to be completely cut off from the animal kingdom, or whether we regard them as the superior elder brother and the end product of animal evolution, it is quite clear that a human being is the most complex, many-sided and as yet mysterious living creature that we know. How then can one hope on a few feet of wall space to give any helpful lessons concerning Eugenics—the science of the progress of the human race? An attempt will be made in the Visual and Auditory Aids to Learning Exhibition. As with teaching, so with Eugenics the first step is simplification.

We accept as a fact that man is of the same live stuff as plants and animals, and that in a general way he is subject to the same laws of nature, thus we show the various types of heredity—heredity in which characters appear to mix and fuse so that parents and offspring show no resemblance to each other—heredity in which one character completely dominates the other and offspring resemble one parent only.

The vexed question of mind and character is attacked again from the standpoint of A B C. We pick one recognizable mental faculty and trace it through generations. Again we take a broad outline achieved by statistics of the character and intelligence of our whole population, and measure up the mental stature of the average and the comparative numbers of intelligence dwarfs and intelligence giants.

Explanations are not entirely ignored, diagrams showing the division of material in the parental body which makes the beginning of the new person, give a graphic visual reminder of one of the most mysterious facts of existence.

THE EUGENICS SOCIETY
20 GROSVENOR GARDENS
LONDON, S.W.1

Hall B, Stand 2 **British Social Hygiene Council**

BRITISH SOCIAL HYGIENE COUNCIL

THE FILM has come to play an important part in present-day educational propaganda. The lessons of social hygiene can readily be taught by visual means, and the British Social Hygiene Council places at the disposal of Local Authorities and interested organisations a number of films which have been prepared under expert guidance. In order that questions of venereal disease and its dangers should be dealt with carefully, and yet frankly, such precautions are essential, and films are produced in co-operation with acknowledged medical, scientific and educational authorities, and are not released until they have obtained the approval of specialists at the Ministry of Health.

Films suitable for different classes of audiences are produced; some are technical and designed for demonstration to members of the medical profession only; others are appropriate to audiences of nurses, midwives and social workers.

"The Irresponsibles" is described as a popular medical film, designed for audiences of adult women, to be shown in connection with an address by a medical practitioner. Certain sections have been approved for display to young people. A film for men, on similar lines, is in course of preparation. "Deferred Payment" is a dramatic film for mixed audiences, stressing the value of ante-natal treatment for women suffering from Syphilis. "The Ways of Life," a new film designed to illustrate the scientific foundations of social hygiene, prepared in co-operation with leading scientists, and "The Gift of Life," which describes reproductive processes throughout nature, are specially suitable for audiences of parents, teachers and social workers. "Youth and Life" has been prepared specially for parents and to illustrate a course of lectures to young people.

The British Social Hygiene Council is at all times pleased to advise those who wish to arrange for lectures on problems of social hygiene.

The films, which are of standard size and non-flam., are on hire at reasonable rates, provided that arrangements are made for films showings to be accompanied by authorised lectures. In addition, the Council has several cinemotors equipped with generators to enable films to be shown in halls at which no electric current is available.

The Council has also a wide range of display features for exhibition, a selection of which can be seen at Stall No. B.2, Hall B. Exhibits include posters, slogan cards, models, mechanical figures, coloured backgrounds and cut out figures. Exhibits are loaned free to Local Authorities for use at health weeks and other exhibitions, the only charge being for carriage. When required at a moderate fee an expert will attend to arrange the exhibits.

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The arrangements for the letting of the accommodation in the Exhibition and the advertising in this Catalogue have been in the hands of Aubrey W. Hammond and Co. of Fulwood House, High Holborn, W.C.1

The Listener

as an Educational Force

THE LISTENER IS A WEEKLY review concerned with literature, science, art and world politics. In a comparatively short time it has gained a reputation from education authorities and the intelligent reading public as one of the finest and most reliable of all English weeklies. It prints, with explanatory diagrams and photographic illustrations, the text of the most interesting broadcast talks of the previous week: and regularly in each issue there appear notes on science, art and current books. Schools throughout the country take it regularly, and in many a copy is kept in every one of the schoolrooms.

A specimen copy can be had free of all cost by sending a postcard to the B.B.C. Bookshop, Savoy Hill, W.C.2. It is published every Wednesday, price 3d., and is obtainable at all bookstalls and newsagents.