

FILM ARCHIVES

THEIR PURPOSE AND PROBLEMS

An illustrated lecture given to the Film Appraisal
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by

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In speaking on the subject of Film Archives, it is fitting to go back to the last decade of the nineteenth century when this phenomenon of imparting motion to stationary photographs was born. This phenomenon, the motion picture, has given rise to a great industry and has had a profound effect on our society.

Pictures That Move

There were many developments in the latter part of the nineteenth century about which much has been written, but it is sufficient to mention here that moving pictures were recorded on a celluloid film in *1891* by Dickson, an assistant of Edison's, and in *1894* these films could be viewed on a Kinetoscope, a kind of peepshow machine which enabled the viewer to see about 40 feet of film.

In *1895* there was intense activity in a number of countries in trying to devise projectors to enable these films to be shown to large audiences. On December 28th, the brothers Lumiere began screening a brief film program in a cafe in Paris, using a projector of their own design for which they had applied for a patent earlier in the year. Within a month they were said to be making fr. 7000 a week. Within a year they had despatched cameras and cameramen to all corners of the world, including Australia, to bring back films to be shown in their theatres.

In February 1896, their program was shown in London, and copies of these first films shown publicly are today preserved at film archives throughout the world.*

The program shown in London also included a scene of workers leaving the Lumiere factory, the Lumiere parents feeding their baby, and the demolition of a brick wall. At the very least, these films can tell us something about the people of that day, something more than still photographs would reveal.

*Extracts from the film "FILM AND REALITY" were shown at this point in the illustrated lecture.

In November 1896 a portion of the crowd at the *Melbourne Cup* was filmed. The original strip of film taken 73 years ago exists today, and a copy of it is held at the National Library, Canberra. The film is in remarkable state of preservation and the detail of its images surpasses many more recent records. Examination of this film can tell the student something about the dress and prosperity of the people who in Melbourne in 1896 attended an event which had already become an institution. It hardly needs mentioning that every Melbourne Cup since then has been filmed and these films present an interesting record of racing as well as a valuable historical record of the notable people who have attended the race.

In May 1914 a working bee was held at North Fremantle. A film record of this event represents one of the earliest films made in Western Australia that has been preserved. That event was also the occasion for the introduction of Mr. Fred Murphy to film making.*

This film has recently been reduced to 16mm. for preservation purposes and it is regrettable that attention must be drawn to a problem that film archives all over the world have been faced with, and by their persistence have largely overcome. This problem is defective printing which reduces the value of the film for archival purposes. The laboratory should not have allowed the defect to occur, and having occurred, the film should have been reprinted without further charge. I can only suggest that as soon as funds permit, a new negative be made of this film. Looked at from many aspects the film is undoubtedly of historical interest, and certainly the film record must be superior to still photographs and written reports in attesting to the enthusiasm of those taking part.

Reaction to the New Medium

The reactions to this new method of recording reality were many and varied, but it is pertinent to mention a few.

In 1898, Boleslaw Matuszewski, a Polish thinker, showed considerable foresight when he declared that the cinema was a new source of history:

This simple band of exposed celluloid constitutes not only an historical document but is itself a part of history – a part which has not vanished and has no need of a magician to bring it back to life. It is there, scarcely asleep, and all it requires to walk and relive the hours of darkness is a little light passing through a lens in surrounding darkness.

Sarah Bernhardt is reported to have said: “This is my one chance for immortality.” John Bunny left the stage for films, declaring: “They offer a field for the ambitious which is not simply for this day and generations, but for the future.”

*An extract from the film was shown at this point.

In the 1960s an American writer said:

A work of art becomes in the hands of the historian an artifact, a primary document which he uses to define the culture that produced it. Developments in literature, in the plastic arts, even in handicrafts, somehow help the archeologist or historian to understand the minds and opinions of the people whose concerns fostered them.

The writer was Richard Peck, and he was referring to television as the art form of the 'sixties offering a rich field for the historians of the future. But I think what he had to say had equal relevance to the cinema.

Are Film Archives Necessary?

These four quotations to a considerable extent render superfluous most what might be said to justify the existence of film archives, but there are a few points I would like to make.

Films made for entertainment may be worth preserving as works of art and for sociological study.

Films made as records of events are worth preserving for their historical value alone, but they are also of value to the sociologist.

Films which we refer to as documentary are worth preserving for the records they provide of people, places, science, engineering, industrial processes - the list is long. In each of these categories, the film has had a profound and lasting effect on our society and on all but a few small groups in isolated corners of the world. It is for this reason also a valuable source of material for the sociologist.

It is a most interesting development in Australia that film is beginning to come to the notice of historians. In other parts of the country, there are at least four graduate students in University History Departments doing research on topics concerning film. Students entering this area in Australia must be rather courageous, since the film resources available for study are small, pitifully small compared with the riches available overseas.

Those who might wish to study the film as art are at the same sort of disadvantage as the historian, since the official Australian film archive at Canberra has little resources to do more than collect and preserve examples of Australian film production. There is a small film study collection, but beyond this the student can only look to the libraries of commercial and television film distributors where the films held may be far removed from the original production, and the titles available will only be those considered to have commercial value.

In England, Dr C.H. Roads, who is Deputy Director of the Imperial War Museum, is actively encouraging historians to make use of film in their researches. In a paper entitled "Film as Historical Evidence" illustrated by

by appropriate segments of film, Dr Roads spoke of some of the advantages and pointed out some of the problems which faced the historian in the use of film. He showed a film extract, presenting views of the Post Office, Gunpowder Office and other areas of Dublin in April, 1916, in all probability filmed within 48 hours of the event. In speaking of this extract, he said: “. . . . I hope from this short piece of film of Dublin in 1916 you will begin to appreciate how much the film record can add to that in written sources in the sense that one can see the extent of the damage, the demeanor and equipment of the troops involved, and even the attitude of the Dublin populace.”

If Dr Roads had given this paper in 1969, he might well have illustrated it with film taken in Prague in August 1968 and much the same remarks would have applied as to the film of Dublin in 1916.

From another point of view, Ian Dunlop's award-winning film, "PEOPLE OF THE WESTERN DESERT" may in the all too near future represent the only way these people, their struggle for existence, and their culture can be observed in their ancestral environment. Across on the other side of the continent we hear of alarming threats to the Great Barrier Reef. Some of the very excellent film records and photographs may soon be all there is to see of certain parts of the reef at least.

Problems of the Archivists

If we accept the need for film archives, we must next consider the peculiar problems which the archivist must face in preserving film, and *making it available for study*.

It is well known that film is a most ephemeral medium. If it is used, the process of running it through a projector results in gradual deterioration through wear, and even if it is not used, deterioration occurs in other ways. Until about 1950, cellulose nitrate or celluloid was used for the film base of almost all 35 mm. film. It is well known that it is a highly inflammable substance, but it is also chemically unstable. The inflammability of the film is often assumed to be the primary problem in preservation, but with reasonable precautions, this is not the case.

The chemical instability is the more serious problem, since it results in the film becoming sticky and the gases released by the decomposition bleach the image so that the film can neither be projected nor copied. Being a chemical process the decomposition can be retarded by *low temperature storage*. There is no method known of preventing it. However, there are *chemical tests* which permit the stability of the film base to be checked, and serious decomposition to be detected before it is too late for a film to be copied. If nitrate film is kept under good conditions, 50-55 degrees F and the same percentage of relative humidity, with precautions against the introduction of any fire risk, it can be stored with reasonable safety provided the chemical test is used to reveal decomposition before the film can reach the dangerous, spontaneously combustible state.

For at least the last ten years, the use of non-flammable cellulose acetate has been almost universal (the so-called safety film), but recently polyester film base has come into use. This is also non-flammable. From their introduction in the 1920s 16 mm. and 9.5 mm. film as well as some other gauges used only acetate base, so that the problems of preservation for these films are much reduced.

Cellulose acetate is also a chemical substance and may suffer slow deterioration. However, it is believed that it will last for at least 200 years, so that the use of acetate film for copying nitrate film will extend its life as a film record by about two centuries. If at the end of that period the preservation of the film is threatened, a further copying process can be undertaken. However, this is not a completely satisfactory solution, since in the copying process there is a loss of quality, and with repeated copying this is cumulative. So, after a few "generations" of copying, the result may be scarcely a shadow of the original film, and of limited value to the historian or student. This loss of quality results in the distortion of the tone values of the image and at its worst can be identified as a "soot and whitewash" quality.

For this reason, some archivists prefer to hold the nitrate film and to defer the copying process as long as possible, partly with the intention of extending the life of the image a few years, and partly in the hope that better copying processes and more highly stable film bases may be developed. There are of course, also some economic restraints which prevent most archives from copying all their nitrate film onto acetate, since the process is expensive.

Some economy can be made by reducing the 35 mm. film to 16 mm. but this is not a method of much repute since the loss of quality when the 16 mm. film ultimately has to be copied is much greater. There is the additional problem in Australia and many other countries that the standards of quality in reduction to 16 mm. and copying of 16 mm. are lower than they might be and the loss of quality is greater, the deterioration faster.

The archivist is, after all, aiming to preserve film for posterity, for *hundreds*, and, *if possible, thousands of years*. Reduction to 16 mm. can only reduce the length of time that a film will be available to future historians. Where the original was taken on 16 mm. film, there is of course no alternative to accepting this reduction in lifetime of a film.

Shrunken Film and Picture Steadiness

There are two other less serious problems which affect the preservation of film and are worth mentioning. The first is that nitrate film shrinks with the passing of years - old 35 mm. film may be found to be only 33 mm. wide. The modern equipment which is used for copying film is unreliable in this regard and will not safely handle badly shrunken film. Some laboratories using old equipment may be able to copy shrunken film, but when no such facilities have been available archives have had to make their own equipment. Even when shrunken film can be copied, the resultant print may not be very steady. The second

problem relates to the question of steadiness. This is something which has plagued film makers for over seventy years. Cameras, printers and projectors being less than perfect pieces of mechanical equipment, contribute some degree of unsteadiness to the finished result. With repeated printing or copying this unsteadiness is cumulative. This is why you may see quite an amount of jitter in some scenes in a compilation film using old material, particularly if the original was badly shrunken and care was not taken in its printing.

Preservation of Sound Films

Another problem which the film archives are only just beginning to fully appreciate is that of preservation of the sound record on sound films. The photographic method of copying results in loss of quality in the sound track as well as the picture, but in this case it is a loss of frequency response and an increase in distortion, which after very few copyings may render the sound unintelligible. This is particularly the case with some sound tracks made in the 1930s which may be virtually destroyed by photographic copying methods. The only way they can be adequately preserved is by an electrical re-recording process, which increases the cost of preservation appreciably.

Accessibility of Archive Films

The first task and the primary problem of most archives is preservation of films. But having preserved them, what then? For their full value to be realised they must be accessible to the historian, the student and even the general public. The very form of the film record and the cost of preparing copies prohibits at the present time the type of access that the public has to books in the state libraries. However, most film archives are associated with a Film Theatre or Film Museum which screens selections from its own archive and those borrowed from other archives. In the United States, public libraries are developing collections of films on 8 mm. and 16 mm. which are available on free loan to the public.

The film archives are giving increasing thought to the problem of the accessibility of their film collections. They have always co-operated fully with students and researchers, but because of the special nature of film this has frequently resulted in a considerable burden on the often too meagre staff.

It is a strict principle of film archives that a preservation copy of a film must never be exposed to the wear and the risk of damage arising from running it through a projector. There are viewing machines which are much kinder to the film but there is often reluctance to allow a preservation copy to be run through these except very occasionally. It does seem that the only method of making the whole of a collection really accessible is for viewing copies of all the films to be made, but expense has generally ruled this out, especially as most archives have a huge backlog of preservation work to which they must direct the bulk of their resources. However, the answer for the future probably lies in 16 mm. or even high quality 8 mm. viewing copies as well as videotape.

Preservation of Colour Film

The problems of preservation of films made during the first fifty years of the cinema are difficult enough and their solution requires the expenditure of considerable sums of money. However, the universal introduction of acetate film has been paralleled by a rapid growth in the use of colour. The silver which constitutes a black and white image is relatively stable; the dyes which constitute a colour image are not, and can fade. An unstable film base has been exchanged for an unstable image, and so the film archivists have a new problem.

They know how to solve it, but the sums of money involved are even greater than for preservation of black and white film. The best method is to make three black and white duplicates, one for each of the primary colours - colour prints may be made from these at any time. For economy, 16 mm. can be used rather than 35 mm., but better than this is a recent development where the three black and white images of 16 mm. format are recorded on a single 35 mm. frame. Shrinkage can occur in acetate film too, and putting the three images on the one strip of film ensures that they all shrink to the same degree. Since the fading of dyes is a chemical process, it can be *retarded by low temperatures*, and this is the solution which has been chosen at one archive. The temperature is at the deep freeze level, and maintaining this for extensive vaults is itself expensive. Small archives and even film makers have been known to store their precious original material in refrigerators or small deep freeze units.

Preservation of Other Materials

My remarks have been restricted to the preservation of films, and while these are the end product of film making, they are not the only items concerned with it which are worthy of preservation and which might be the subject of study at some time in the future.

I would like to read to you the aims of the International Federation of Film Archives:

- a) to promote the preservation of the artistic and historic heritage of the cinema and to bring together all organisations devoted to this end;
- b) to facilitate the collection and the international exchange of films and documents relating to cinematographic history and art, for the purpose of making them as widely accessible as possible;
- c) to develop co-operation between its members;
- d) to promote the development of cinema art and culture.

It should be self evident that the preservation of documents about film making, cinema art, the reaction of the public to films, in fact all matters relating to film, greatly augments the value of the films themselves to both contemporary and future researchers. Many of the leading film archives have impressive collections of reference books, journals, photographs, cuttings, scripts. These are naturally more readily accessible than the films themselves.

The problems of film archives might seem to be so formidable that one could be forgiven if one's reaction was "it's hardly worth the trouble". However, I think that there are sufficient people who believe that it is worth the trouble, and that there is a heritage worth preserving for future generations.

In Western Australia we have a problem which is comparable to that of developing countries elsewhere in the world. Not a great deal of film was taken here during our early years, and not much of it remains today. We have an urgent problem of locating what does remain before it is lost for all time.

For a few short years following World War II, a newsreel company did operate in Perth producing films of a standard comparable with the larger companies, but without the benefit of being able to include sound recorded locally. As so often was the case, there was apparently no attempt to preserve the films taken for posterity. Today, only a few of these weekly newsreels remain. Very rarely, Cinesound or Fox included items filmed in Western Australia and certainly some of these will have been preserved in the companies' vaults in Sydney. In the 1920s, Mr. Fred Murphy, one of the State's pioneer cinematographers shot a very large quantity of film, some of supreme historical interest, and with commendable foresight he preserved over a hundred thousand feet of negatives of this material. In recent years he was unable to excite and official interest in the preservation of his film, and the conditions of storage were necessarily precarious. Two years ago, a tragic act of vandalism destroyed virtually the whole collection. Three newsreels, taken about 1948 (the date has not yet been verified) will give just a glimpse of the type of valuable historical material that might have been found in Mr Murphy's collection*.

In Western Australia the State Film Centre and the State Archives are concerned with the preservation of film related to the history, development and culture of our State. This is quite properly the aim of a State-government-supported activity.

I would like to remind you of one of the aims of F.I.A.F.: "to promote the preservation of the artistic and historic heritage of the cinema and to bring together all organisations devoted to this end".

I support this aim as do many others, whether they be film society enthusiasts, film makers, film students, archivists, or sociologists. It is profoundly disturbing to us to see so little being done in this country in support of this aim. This, at a time which is critical as far as preservation of film is concerned.

The collections of many of the world's great film archives have been built up over a number of years as a result of gifts of original negatives and prints from producers and distributors. These form the basis of a collection for preservation, research and study. In Sydney, the centre of film production and distribution in Australia, literally tons of nitrate film are being emptied out of vaults and

* Extracts from Westralian Newsreels, c. 1948 were then shown - "Archbishop enthroned", "Government House Investiture" and "Science Congress".

destroyed, in most cases without there being any opportunity to examine the film for rare or unique material worth preserving. Recently, the only surviving print (minus the last reel) of the 1936 production "Flying Doctor" was rescued from a tip at Hunter's Hill. How many unique Australian and foreign films have gone the same way?

Soon, unless there is a change of plans, there will be no vaults for the storage of nitrate film in the whole of Australia. But sooner or later it will be decided that Australia needs a film study collection far more comprehensive than the present modest collection in the National Library. How much more will this cost if new prints have to be purchased from overseas! Overseas archives from which the films would mostly come would say that it would be impossibly expensive.

There would seem to be but two solutions. The first would be for funds or facilities for storage to be obtained from private sources, which seems unlikely in Australia. The second — for the Federal Government to divert a small fraction of the funds earmarked for aid to film production, to the National Library specifically for the establishment of a comprehensive film collection including storage facilities for nitrate film. Naturally, the film trade and government film producers would need to be approached asking for an immediate cessation of destruction of film.

For the present, we can make our contribution in Western Australia by ensuring that any film discovered here and not relevant to our own particular interest is held until there is an organisation either in Australia or overseas willing to preserve it.