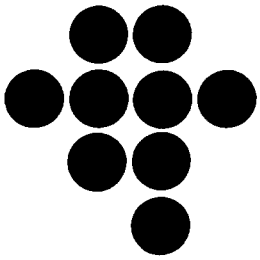

COMMUNICATIONS
FORUM

PRESERVING THE PAST

September 25, 1986

Seminar Notes

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Tom Gunning
SUNY at Purchase

Peter Williamson
Museum of Modern Art (New York)

PRESERVING THE PAST

In introducing the topic, the moderator Prof.Paul referred to the incident three years ago when Alfred Hitchcock movies were re-issued. Three of the five Hitchcock films that were being re-issued had reached a point of negative deterioration that made it impossible to have full color preservation on the re-issued prints though the films were only 30 years old.

Of the many problems surrounding film preservation Prof.Paul highlighted three. Firstly, a matter of shear numbers - Hollywood in its heyday was turning out between 400-500 films a year. This raises questions about which films to save and how. Secondly, though film is increasingly becoming video for a number of people and thereby posing a cheap way of saving it, it still isn't a good solution. Thirdly, the issue of black and white film desecration (rather than preservation) as a result of the profit oriented colorizing of these movies.

Tom Gunning - SUNY at Purchase

Gunning began by recollecting his early surprise on learning of how several classical literary works had been lost. This experience he said was repeated with reference to the film industry where between 2/3rds and 3/4th of all silent films have been lost - including works by important directors such as Murnau, Strohein, Von Sternberg, and Lubitsh. Referring to the more than 400 films produced by Melies, a dozen he said were discovered in 1929, and by 1981 142 films were assembled. Though this is a considerable number it is well below the number of

films produced by Melies.

Two important reasons were suggested for the loss of early films. Firstly, silver nitrate's short chemical life and volatility led to concern over storing. Just as important is the second factor which has been the cultural definition of film - is it worth preserving? This is an issue not only for cultural guardians but also for the film industry.

Gunning then turned his attention to the paper print collection which was one of the sources for the recovery of Melies' films. The paper print collection has about 3000 prints of film produced between 1894 and 1912. This collection was not originally a method of preserving films. As a new media, films were not protected by copyright yet. Photographs were protected by copyright laws and since the dimensions were not specified paper prints were made of the film and submitted to the Library of Congress to gain copyright protection under the "photograph" category. The print was made on strips of bromide paper by contacting it with the negative. The value of these prints was recognized in the 1940s while they were being inventoried by Howard Walls. Subsequently between the 1950s and 1960s the project was undertaken to photograph them onto 16mm film. A number were recently re-photographed onto 35mm film, an ongoing project.

An issue that was closely related to the paper print collection was the copyright law. While serving almost accidentally as a means of preserving some of the earliest films, the paper print collection brings to the surface a tangle of

ambiguities, both legal and cultural that the new phenomenon of film represented in the first decade of its existence.

Gunning described in detail the progress of film from the initial stages (1894) of not being specifically protected by copyright laws (though photographs were), through a series of varying lawsuits until it was finally recognized as a photographic and narrative entity. During this period the definition of a film went through important transitions. First, it was a differentiation bearing on the technical makeup of film - the movement from a single shot, to films comprising multiple shots. The second stage differentiated film as a form not only possessing separate shots but also allowing dramatic continuity and movement. The film industry which upto that point was based primarily on the documentary capturing of real events progressed to producing films with script and story. It is this narrative aspect of film which the copyrighting of films as photographs could not cover.

Film as a narrative medium was emphasized and established as a result of the lawsuit in 1909, where Harper Brothers instituted a suit against a film made by Kalem based on their novel Ben Hur. Harper Brothers based their suit on the violation of their exclusive right to the dramatization of the novel, while Kalem defended their film claiming it was a photograph expressing pictorially their own idea of incidents. The suit was awarded (1912) in favor of Harper Brothers setting the legal precedent for the protection of the dramatic idea expressed in films as well as other narrative forms.

By 1912 the Library of Congress began accepting actual

film print for copyright purposes. However, concern over the storage of volatile nitrate film and the growing recognition that films were a dramatic entity soon led to an acceptance of plot synopsis, scenarios and scripts, written rather than photographic material. Consequently the film holdings of the Library of Congress diminished and disappeared soon after 1912. Ironically the establishing of film as a narrative form indirectly led to the loss of film preservation.

Peter Williamson - Museum of Modern Art (New York)

Williamson suggested the title of "Illusions of Grandeur", for his presentation. Picking up where Gunning ended he related the development of films.

By 1913 he said motion pictures were firmly established as a money making industry. And the next major step was to establish standards for the physical dimensions of films which could be applicable not only in the US but also abroad. Thomas Edison pretty much established 35mm as the film width but there were many variations in perforations, and the positioning of images. Initially films were made with various types and numbers of perforations. In 1914 Bell & Howell introduced a precision film perforator which was so superior that it immediately gained acceptance as a world standard. The film was 35mms wide with perforations along both edges with the 24mm picture centered between them. The picture had a height of 4 perforations (approximately 18mms) creating an aspect ratio of 1 1/3rd units width for every unit of height. In this form motion pictures

ended their "golden age of silence". Golden both artistically and financially, and silent simply because nobody could develop a commercially successful way of recording and reproducing sound in synchronization with the images.

One of the first commercially successful synchronized image and sound recording systems stated Williamson, was developed by Theodore Case and Earl Sponable and it was called the Movietone process. However, he said, there was a problem as to where the sound track could be located. Since the sound track was about 2 1/2mms wide it couldn't be squeezed between the perforations and the edge of the film. Putting it on a separate piece of film meant running the risk of loosing synchronization. Therefore the only alternative was to mask off one end of the image to make room for the second track. However, this caused an aesthetic problem since the film frame became more square with an aspect ratio of 1.16. With additional magnification the aspect ratio of 1.33 could be obtained but it showed up the coarse grain structure common to camera negatives then in use. A study of shapes used by "old masters" was conducted to determine the best shape for composition and the industry was shocked to learn that the "masters" had composed in ratios ranging from 1.5 to 2. Since no standard 35mm film was capable of reproducing such large images, the American film industry realized the need for "wide film". The first offering came from the Fearless Camera Company which introduced a 35mm film running horizontally through the camera exposing a double frame, with the sound on a separate piece of film and synchronized (hopefully!). While the results were extremely good said Williamson, the thought of re-equiping

every projection booth in the world doomed the idea from the start. An alternate approach was to keep the existing Movietone process, simply widening the film to devote extra area to the picture frame, determining the film width on the basis of a selected aspect ratio. In this case Paramount chose an aspect ratio of 2, printing a film 56mms wide (Magnafilm). While this also required special projectors it was not as bad and as intimidating as the "Fearless" process. However, a new problem that developed with Magnafilm was that the extra wide film tended to weave as it ran through the sound playback unit on projectors thus distorting the sound.

It was then thought that a double width sound track would rectify the problem and the Fearless Camera Company produced a "super" film 65mms wide with room for the double width sound track and an enlarged image. The "super' film (25% taller than the standard 35mm) had an aspect ratio of 1.95 and 5 perforations rather than 4. This system was well received by Warner Brothers, First National and United Artists. Williamson at this point exhibited a sample of film developed by the Spoor-Bergen process around 1925/26 strictly as a silent format Panorama presentation for World Fairs. This was 63.5mms wide with 6 perforations and an aspect ratio of 1.85 so that by the 1930s when people tried to add a sound track on a separate piece of film running on a separate piece of equipment the whole projection process became a failure compared with the Fearless Super 65mm.

Meanwhile, said Williamson the Fox film company and

Metro Goldwyn Mayer began using 70mm cameras for their picture negatives. They had the same 35mm perforations but spaced further apart resulting in an aspect ratio of 2.1 and leaving room for the double width sound track. Instead of equiping all the theatres with 70mm projectors MGM optically printed the 70mm negative onto 35mm prints using the full width of the silent image. The sound track for this 35mm film was put on a separate 33 1/3rd RPM record and mechanically synchronized with the projector (Vitaphone). Fox on the other hand went all the way, photographing in 70mms and recording the sound in 70mms and projecting in 70mm. This was called the "Grandeur" process. The western titled "The Big Trail" was also simultaneously shot in 70mms, 35mms (standard Movietone) and in German (35mms) at an extimated cost of 3 million dollars in 1930. The 70mm version played at Fox's flagship New York theatre the Roxy as well as the Chinese Theatre in Los Angeles. Every other theatre in the world ran the Movietone versions.

By 1931 he noted that wide film had been dealt a mortal blow at the box office, and technical problems (nitrate film shrinking under the heated projection lamps) limited the engagements. At this time the break through in motion picture technology by Eastman Kodak permitted a much finer grain 35mm negative. Even when projected using the reduced 1.33 format, this new film was capable of filling all but the largest of screens. As a result he said, all work on the wide film ceased and had to wait for more than 20 years to re-emerge as Cinemascope.

Williamson then stated that in 1974 20th Century Fox

the successor to the original Fox Company gave the Museum of Modern Art the original 70mm nitrate film negative of "The Big Trail" as well as the 70mm nitrate track on position stock. By 1979 the sound track was deteriorating rapidly. In 1981 the museum decided to preserve the film and therefore modified an old broken "Grandeur" project that they found, to be used for copying the film. Though they originally hoped to print onto a modern 70mm film they soon realized that "Grandeur" was different since perforations were 5 in number compared to the 4 in "Grandeur" and the picture was located off center in the "Grandeur" with an optical sound track rather than magnetic as in the new 70mm. Also the modern 70mm is exclusively a color format unlike the old "Grandeur". So finally they used a Cinemascope lens to reduce "Grandeur" to standard 35mm film using the registration printing process.

Speakers' Comments and Answers to Questions

The question was asked as to how the Museum of Modern Art decides which films it should save. Williamson responded that first the deteriorating films are saved before consideration is given to any of the others. He stated that there were a large number of nitrate films which by nature of their chemical composition tend to deteriorate very rapidly. Next to deterioration the saving of a film depends on its curatorial significance. The museum he said is currently copying less than

1/4 million feet per year.

Another question was raised by a member of the audience regarding contemporary film mediums and their stability. He asked whether anything could be done to preserve all forms of film prints. Williamson clarified that as far as black and white films are concerned what deteriorates is the cellulose nitrate base and not the silver. Therefore to preserve the film what is usually done is to transfer it to a non-cellulose nitrate base. As for color films, technicolor he noted is very stable and has a long life, while other types of color tend to deteriorate and should be transferred onto a more stable form.

Answering a question about the number of wide screen films, Williamson said that between the period 1929-1931 a total of 13 were made, of which there are 2 complete films ("The Big Trail" being one) and a couple of features currently in existence.
