

## 'SPARTACUS' RESTORED

HET MACHTIGSTE  
VERHAAL VAN LIEFDE EN  
REBELLIE, DAT DE  
HISTORIE KENT... MET  
DE GROOTSTE  
ROLBEZETTING, OOI  
BIJEE  
GEBRACHT!



**KIRK DOUGLAS**



**LAURENCE OLIVIER**

**CHARLES LAUGTON**

**JOHN GAVIN**



**JEAN SIMMONS**

**PETER USTINOV**

**TONY CURTIS**

# SPARTACUS

TECHNICOLOR - SUPER TECHNIRAMA 70 - PANAVISION LENZEN

REGIE: STANLEY KUBRICK - DRAAIBOEK: DALTRON TRUMBO - MUZIEK: ALEX NORTH  
EEN BRYNA PRODUCTIE VAN UNIVERSAL INTERNATIONAL

\* \* \* \*

On Sunday February 24, 1991, there has been a meeting of the Dutch members of the 70 MM Association at the "Casino theatre" in Den Bosch, The Netherlands.

The purpose of this meeting was to talk about the chances of the 70 MM technique in the future. All of the participants shared the opinion that there are a lot of facilities to show 70 MM in the European countries but nearly no 70 MM prints are shipped from the United States to Europe !  
When we look at the advertisements in the American newspapers, nearly every important film is also screened with a couple of 70 MM copies, but none reaches Europe.

On this same Sunday we were lucky to meet Mr. Leslie Hardcastle, co-ordinator of the Museum of the Moving Image in London (MOMI), who happened to be a few days in The Netherlands as guest of Mr. Tom Odems, director of the Casino theatre.

As most of us know, the Museum in London regularly shows old prints and when possible 70 mm, which they sometimes exchange with the French archive in Paris. To stimulate the contact between The Netherlands and Great Britain, Mr. Hardcastle was announced to become an honourable member of the International 70 MM Association. He was very surprised and promised us to see if he could do something to improve the contacts and to look if he could supply us with some 70 mm prints.

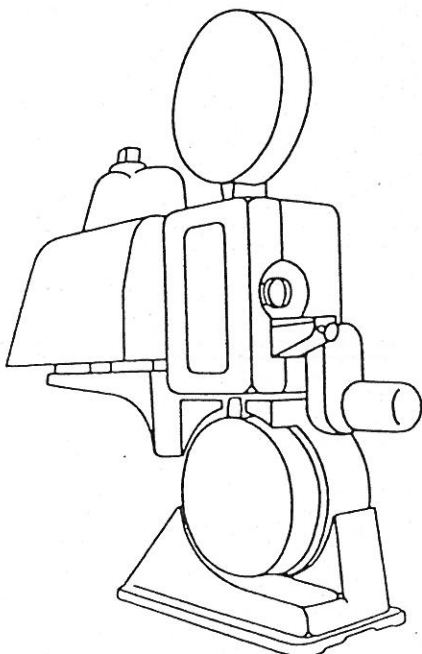
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Film producer Wim Wenders has left his dream to film his latest production "Until the end of the world" in 70 mm. In the next issue we will publish an interview with him from the French film magazine "Cahier du Cinema".

\* \* \* \*

On the last pages of this issue you will find the first reprinted pages of the Philips brochure "How to create a Cinema". Although it is already an old brochure we think it is still very interesting to read about the principles of planning a 70 mm cinema. In the coming Newsletters we will reprint the whole "continuing story".

Johan C.M.Wolthuis



**This is to certify that**  
**Leslie Hardcastle**  
**is an Honorary Member**  
**of the**  
**International 70 mm Association**

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( H o l l a n d )

## 'SPARTACUS' RESTORED

# THE GLADIATOR'S CUT

**T**HERE ARE GRUESOME SCENES OF VIOLENCE in *Spartacus*, but the cuts and blows the film itself has received in the past three decades would make a gladiator wince. It premiered at 182 minutes. When the film was rereleased in 1967, it was cut to 161 minutes and substantially rereedited. When Robert A. Harris examined the original negative, he found it too faded to be usable.

But to Harris, who brought *Lawrence of Arabia* back to life in 1989 and who was involved in the restoration of Abel Gance's *Napoleon*, the faded state of the *Spartacus* negative was not a tragedy—just a challenge. He was determined to restore the Kirk Douglas–Stanley Kubrick epic to its original brilliance. This spring, *Spartacus* will be back where it belongs: on the big screen, in 70mm and six-track Dolby sound.

*Spartacus* is, Harris says, “a beautiful, big, sprawling epic [of the kind that] can't be made anymore. Is it one of the two or three greatest films ever made? No. [But] it's a damn good film, and it's a film that needed to be restored.”

The people who made *Spartacus* think so, too. Douglas and Kubrick have offered their support. The film's original editor, Robert Lawrence, is working with Harris and his partner James C. Katz on a day-to-day basis. And Tony Curtis has been in to re-record a few missing seconds of dialogue. Peter Ustinov is less enthusiastic. He says, about seeing himself bigger than life and 30 years younger, “I'm going to have the same reaction as Dorian Gray. One of absolute horror. I shall recoil from the screen.”

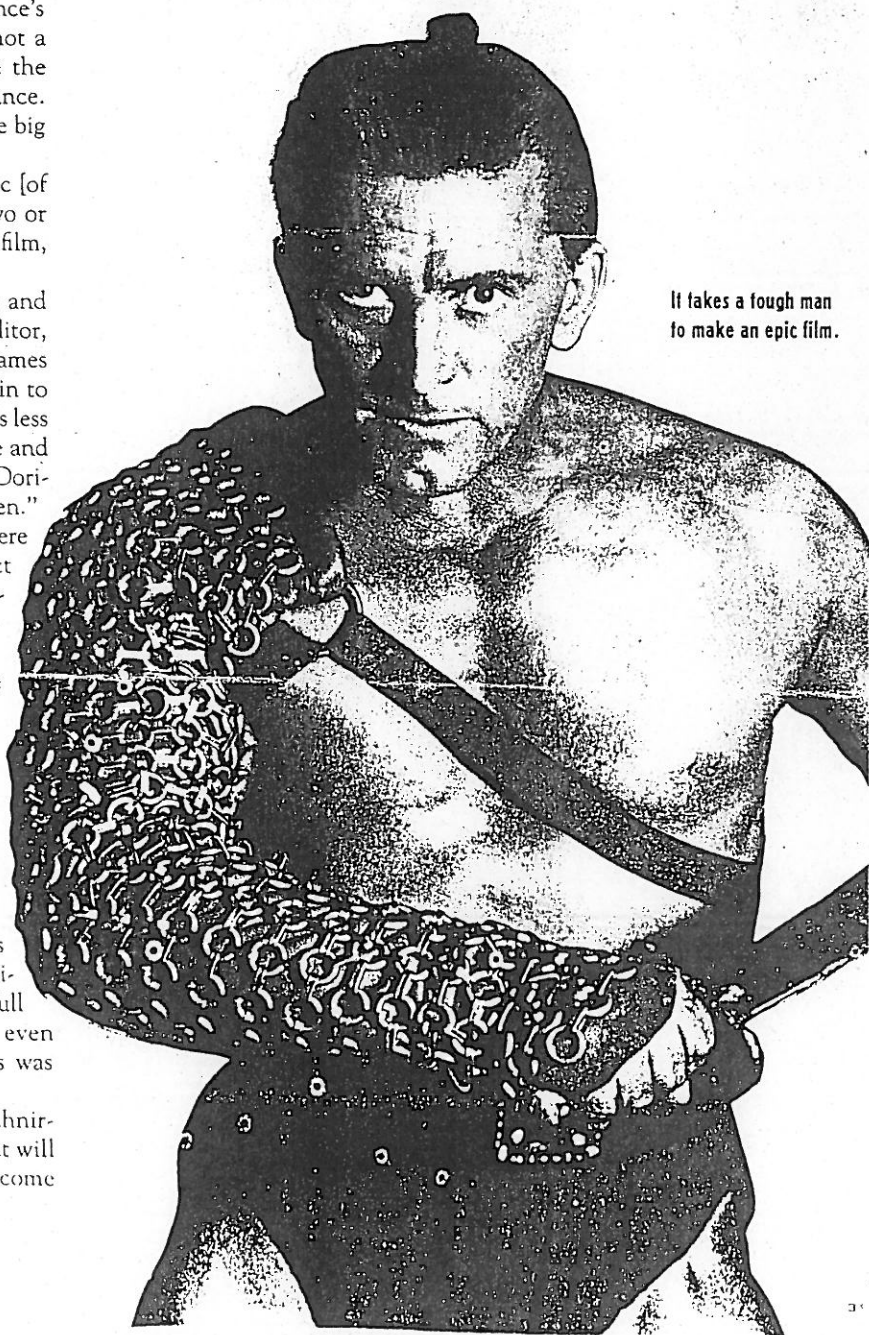
Harris and Katz are restoring *Spartacus* to the pre-premiere cut, before the censors had their say. The finished product will weigh in at 197 minutes, including the restored overture and intermission music of Alex North and some additional footage of the rise of the slave army.

As optimistic as Harris is about the finished product, the *Spartacus* restoration has been the most difficult—and the most expensive, at some \$800,000—of his career. The biggest problem is the Super Technirama 70 process in which it was filmed. The '50s and '60s produced a bewildering array of wide-screen processes, from CinemaScope to VistaVision to Cinerama. Super Technirama 70 was slightly different from most in that it started out as a 35mm negative onto which the frames were printed horizontally. The image, eight sprockets (or *perfs*) wide, was slightly squeezed on the negative. When the 70mm theatrical prints were struck and the image decompressed to its full dimensions, the result was a picture of remarkable clarity, even when blown up to monstrous proportions. In 1960, this was great. Today, the technology is all but obsolete.

“The black-and-white protection masters are in Technirama,” says Harris. “And there's no equipment around that will conveniently convert it to 65mm. We've been trying to come

up with a process which will give us a sharp image across the screen and keep it in register at the same time.”

But the awesome sight and sound of *Spartacus* restored to a semblance of its original Super Technirama 70 glory makes all the restoration's problems worthwhile. “There are a few films that I remember from my teens that showed me the power of film, that made me want to get into filmmaking,” Harris says. “And when I feel one of these films is disappearing, I have to do something about it. It's as simple as that.” —F.T.



It takes a tough man  
to make an epic film.

# The "Børfjord" Project

A One-Year Time-Lapse Short Film in 70mm  
by Morten Skallerud

## Description of Project

*The "BØRFJORD" nature-animation film is a 12 minutes long short film in one single shot, made around an abandoned fisherman's village in Northern Norway. We see the year passing by at 50,000 times normal speed. And at the same time we "fly" along the remains of a 2.5 kilometres long internal village road.*

*The film is intended for large cinema screens, for instance as a pre-show. Thanks to a sponsor deal with Panavision we were able to shoot a 65mm 5-perf (for 70mm- and Cinemascope-prints), which really suits the film as well as the arctic landscape. Since the Børfjord-name seems a bit difficult abroad, we may end up calling it something different in English: like "A year along the abandoned road".*

**T**he village Børfjord lies in a very isolated location on the weather-beaten coasts of Finnmark, Northern Norway, surrounded by a magnificent arctic scenery 450 kilometres North of the Arctic circle.

Some 60-70 people used to live here. Most of their houses are sited on the East side of the fjord down near the sea, and close to the internal village road.

Now nobody lives there any more. In winter, several months may pass without any person coming near the place. The houses stay cold and alone with virgin snow between them. Only during summer do people come back to stay for their holidays, and Børfjord comes to life again for a short period.

I visited Børfjord for the first time in January 1980, on a location recce for another film. I immediately fell in love with the place, and wanted to make a film there.

Then in October the same year the local sami reindeer owner Aslak Mienna took me with him on a reindeer gathering in the area; and I was able to walk on skis alone through the long-ago deserted Børfjord.

Passing all the left houses and barns, boat houses and piers, – and being the first

person to make tracks across the snow, gave me an immense feeling of abandonment. Also, this virgin snow more or less became the symbol of a village left alone.

When I told this to Aslak, he said "Why can't you make your film the same way?" – And this is more or less what we have done.

We chose to make our "Børfjord" film as an apparently continuous time-lapse shot over a full year, making as much use as possible of the place's personality and enormous contrasts. This way, also the Arctic nature would play a very important part in our film, as indeed it does in real life.

If we moved along the remains of the road at the same time, we would also more or less "cover" the whole village. This time-lapse/tracking shot technique should enable us to make a very true portrait of the village Børfjord, – in many ways much more accurate than any documentary approach.

What about filming people in a time-lapse film? In this large time perspective, people inevitably will seem small, rapid, inconstant and incalculable, like insects as seen with "normal" human eyes. So generally, it should be avoided.

However, our film is about a village being left by the humans and taken over by the forces of nature itself. And in this context, the "insect effect" should work well.

People get close and present enough for us to care about them: They are men and women of all ages. Genuine and proud

people, many of them marked by a life of toil in a tough climate.

And since we do care about the people, the undisturbed nature becomes even more mighty to us.

Another basic choice we made was to "tie together" the one-year-cycle and the day-and-night-cycles (spring = morning, summer = day, autumn = evening, winter = night). This is actually not too far from the truth about Arctic seasons, – with the sun up 24 hours a day during summer, and no sun at all during the winter.

Ideally we should always be shooting in Børfjord when the seasonal changes actually happened (snow melting, ground getting green, autumn colours coming, snow falling), while in the more "static" periods, we could wait.

However, in Finnmark these changes are very unpredictable indeed. For instance, the snow melting period may vary with 2-3 months from one year to the next. We would have to guess. Thanks to our "local connections", often we guessed right.

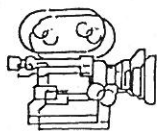
We got most of the finances we thought we needed in 1987, and spent the autumn and half the winter to develop, build and test the necessary equipment. Shooting was started the 9th March '88, and was finished the 29th January '89.

Before we started, we had only a very vague idea about how fast we could work, how much the unstable weather would slow us down, and hence how many shooting days we needed. We ended up with 105 shooting days, which was far beyond our budget! If we add all the can't-shoot-because-of-too-bad-weather-days, preparation days and travelling days we spent a total of 180 work days (half the days of the year) in Finnmark during shooting; – with a team of between one and four people plus local help.

Unnecessary to say of course; this gave us enormous financial problems. But thanks to labour credits and private loans, we did manage to finish shooting; – and also to finish a half-good preliminary version of the film on video.

We are still desperately seeking money to finish the "Børfjord" film as we want it; on 70mm and 35mm film with a proper sound track.

The famous Norwegian contemporary/jazz composer Jan Garbarek will make the music for this film.





## Description of Technique

We developed a system with a heated "rolling house" for the camera, and a very flexible rail system. We motorized and made a computer steering for the forward movement along the rails; - while tilting and panning had to be done manually. Panavision's 65mm rack-over camera suited us perfectly together with an animation motor which Frode Wik of Wakemanfilm in Oslo had made for my 35mm Mitchell a couple of years before. Frode also did a real good job as the technical manager on the "Børfjord" project.

The rails were built of plastic and aluminium, resting on a solid steel base. We made four lengths of 2 metres and one short-length of 1.5 metres. As we moved forward, we took down the lengths we had passed and put them up in front.

We used a round rail on one side and a flat rail on the other. Our "dolly"/"camera car"/"camera house on wheels" rests on 6 wheels: Four inclined wheels rest on the round rail and do the steering, while the electric motor and the optical encoder are connected to each of the two wheels that rest on the flat rail.

Our "camera car" consists of an upper house and a lower house, with a flexible opening between them through which the column of the Crass animation stand passes. The upper house may be turned in any direction on top of the lower house.

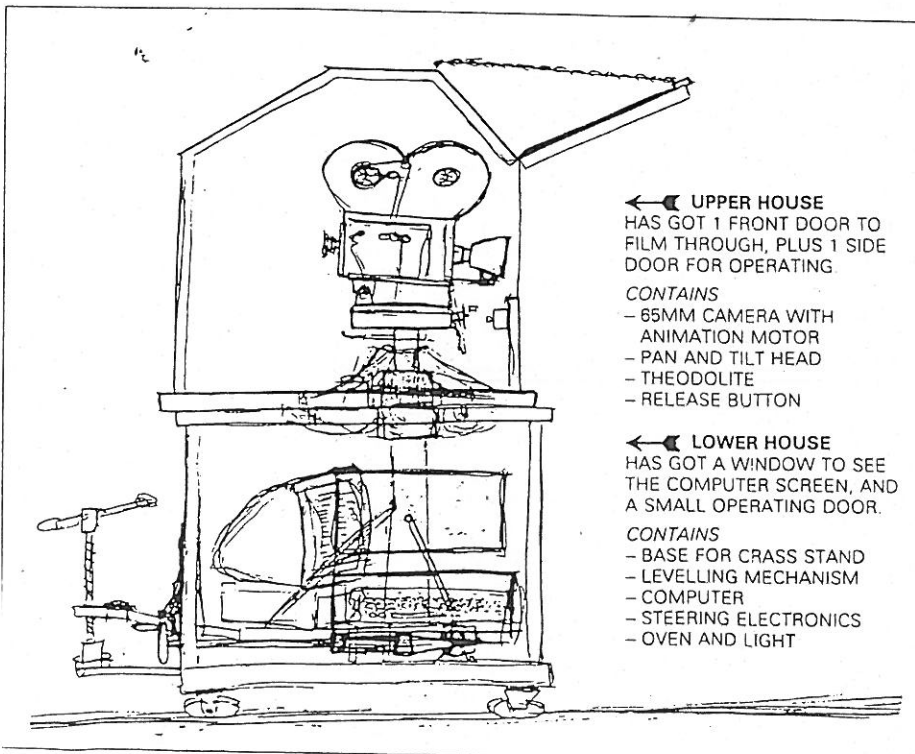
Inside the lower house is the base of the animation stand with a levelling system connected to two levelling wheels on the outside. Also we put in the computer and the steering electronics there, as well as a light and an electric oven. The computer could be operated through a small trap-door, which also was an excellent opportunity to warm our hands.

The upper house contains the camera mounted on a geared head, a theodolite (a surveying instrument, which we used for the panning), and the camera control and exposure unit. It had a front door for filming through and a side door for operation.

All the electrical apparatus was run on 220V AC; which came partly from a generator and partly from the local electricity network. We spent a lot of time laying out cables.

The whole "Børfjord" film is shot one frame at a time, - levelling and adjusting with the theodolite for each frame. Parts of the film (such as the two continuous midnight sun passes) were shot with entirely fixed time-lapse intervals, - while the most has been shot "as fast as possible" 2-3-4 lengths at a time. The night scenes at the end were shot with long exposure times in pale moonlight only.

We shot the film with a 50mm lens, - on 65mm Eastman 5247, except for the night part which is shot on 5297. □





# PLANNING A CINEMA

## PROJECTION ROOM

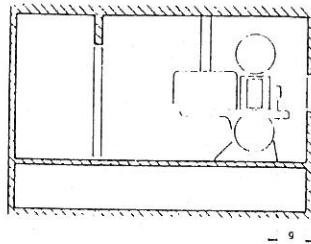
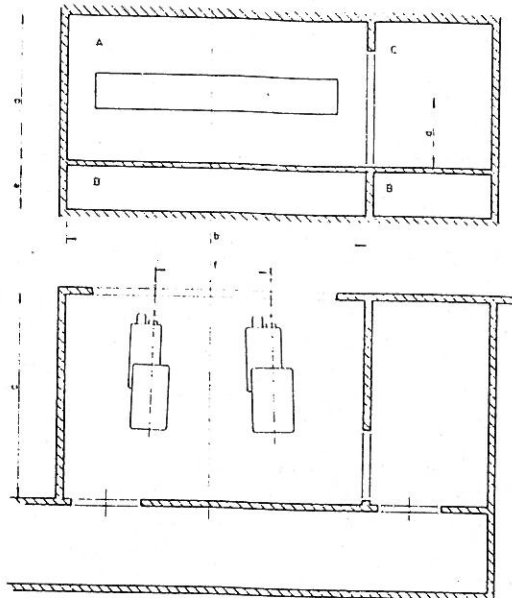


Fig. 1

- A = projection room
- B = space for cable ducts
- C = rewinding room
- a = height = 2.5 m (8 ft)
- b = length = 5 m (16½ ft)
- c = depth = 3.5 m (11½ ft)
- d = centre line of the windows above the floor
- e = height of the cable space under the floor = 75 cm (2½ ft)
- f = distance between the axes of the projectors = 200 cm (6½ ft)
- g = distance of projector base from front wall = 50 cm (20")



### DIMENSIONS

A spacious projection room is desirable from every point of view. A general plan is shown in fig. 1. The projection room should be symmetrical to the centre line of the auditorium. It must meet local regulations.

The height, length and depth given in fig. 1 are the minimum dimensions recommended when two projectors are used. Strictly speaking a smaller projection room would suffice but this would make operation more difficult. With a view to possible extension in the future, it is even preferable to build a projection room with a length of 7 m (25 ft), accommodating three projectors.

The floor of the projection room should be made to withstand a load of 1000 kg/m<sup>2</sup> (205 lb/ft<sup>2</sup>).

### INSTALLATION OF THE PROJECTORS

#### Symmetry with respect to the centre line of the auditorium

In order to minimize picture deformation due to off-centre projection, the projectors should be installed symmetrically with respect to the centre line of the auditorium. Thus, when two projectors are used, they should be equidistant from the centre line and when three projectors are used, the optical axis of the middle projector should coincide with it.

#### Distance between the projectors

To facilitate operation, the distance between the optical axes of the projectors should be about 2 m (6½ ft).

#### Distance from the walls

There should be ample room for free passage along the side walls and the rear wall. The projectors must be easily accessible from the front; a good distance between the bases of the projectors and the front wall is 50 cm (20")

### Angles of rake of the projectors and of the screen (fig. 2)

The angle of rake  $\alpha$  of the projectors should be as small as possible.

Too large a projection angle causes deformation of the projected picture due to:

- **Keystone effect;** this can be corrected by giving the black frame around the picture a rectangular shape and by using a trapezoidal mask in the projector, but by doing so the part of the picture shaded in fig. 3 is cut off, which may be annoying when sub-titles are used.
- **Curving of the horizontal lines** when curved screens are used.

These deformations can be limited to some extent by tilting the screen backwards. Care has then to be taken that the spectators in the front rows do not see the picture at too acute an angle. The angle of tilt of the screen should therefore not be more than  $1/3 \alpha$  (fig. 4).

**RULE 1:** For curved screens: For flat screens:

$\alpha_{ideal} = 0^\circ$	$\alpha_{ideal} = 0^\circ$
$\alpha_{downward} = \text{max. } 8^\circ$	$\alpha_{downward} = \text{max. } 12^\circ$
$\alpha_{upward} = \text{max. } 3^\circ$	$\alpha_{upward} = \text{max. } 5^\circ$

### PROJECTION-ROOM WINDOWS (fig. 1)

It is recommended that there should be a slot of about 50 cm (20") high over practically the whole width of the front wall of the projection room. All the required windows can be fitted into this slot; their exact place has to be indicated by the supplier of the projectors.

When the projectors are not to be tilted the centre line of the slot should be 119 cm (47") above the floor; when they are to be tilted the correct height must be determined by the supplier of the projectors.

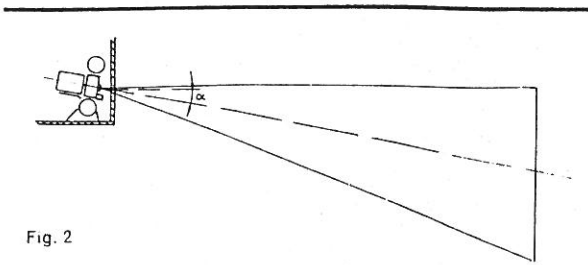


Fig. 2

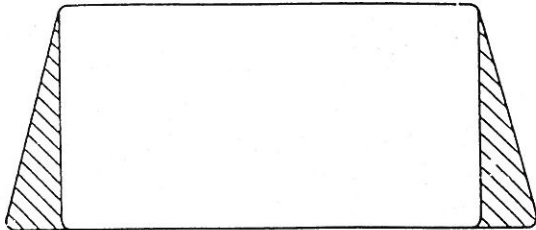


Fig. 3

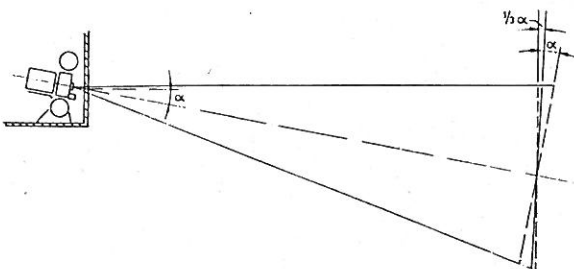


Fig. 4

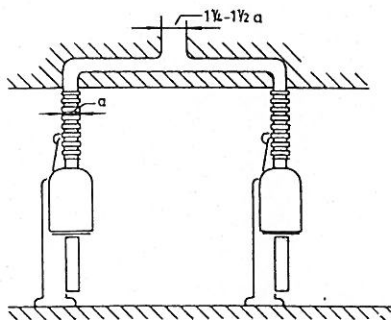


Fig. 5

## VENTILATION OF ARC LAMPS

The flues of arc lamps should either be in communication with the open air or, if the draught is insufficient, be connected to a suction device. This device is always advisable when the arc current exceeds 60 A. The chimneys should be provided with cowls.

When two arc lamps are connected to the same exhaust pipe (fig. 5) the two flues should be of equal length and diameter.

The exhaust capacity of a suction device should be:

at 60 A:	1.7 m <sup>3</sup> /min	=	60 ft <sup>3</sup> /min
75 A:	2.2 ..	=	79 ..
90 A:	3.2 ..	=	115 ..
100 A:	3.3 ..	=	117 ..
125 A:	4.4 ..	=	158 ..
130 A:	5.5 ..	=	195 ..

## WATER SUPPLY

When arc lamps of more than 50 A are used the projectors have to be water-cooled and when arc lamps of more than 100 A are used, so should the lamphouses. Modern equipment with other light sources is always supplied with water-cooling.

## SOUND INSULATION

It is recommended to cover the ceiling of the projection room with a suitable sound-absorbing material so as to give the projectionists a quiet room to work in. Moreover, the sound insulation of the projection room must be sufficient to prevent sounds from being transmitted to the auditorium. There are two ways of sound transmission:

- **Direct transmission through the air;** this is sufficiently limited by a front wall consisting of a single layer of bricks (header bonded) or 12 cm (5") of concrete. Still better is a cavity wall (stretcher-bonded bricks, cavity 5 cm = 2"). The brickwork should be of high quality, well plastered, so that there are no cracks or holes. The windows should be mounted with extreme care to avoid sound leaks.
- **Indirect transmission,** e.g. of the noise of footsteps or of vibrations of machines secured to the floor. This can be limited by a floor of sufficient thickness (at least 12 cm = 5" for a concrete floor), covered with a sound-proof material (e.g. rubber or cork). Particularly good is the sound insulation provided by a judiciously laid floating floor.

## OTHER ROOMS

### REWINDING ROOM (fig. 1)

It is advisable to have next to the projection room a separate rewinding room in which a cabinet for storing film reels can also be placed. The dimensions of the top of the rewinding table should be at least 200 x 65 cm (6½ ft x 2 ft).

In the wall between the rewinding room and the projection room there should be a large window and the rewinding table should be placed under this window so that the projectionist can keep an eye on the projectors while he is rewinding the films.

### SWITCHING ROOM

It is advisable — and often required by regulation — to have a separate switching room next to the projection room. Here can be mounted:

- the switchboard for the whole equipment;
- the dimming equipment for the auditorium lighting;
- the supply units for the projection lamps;
- the compressor for air cooling, if used, to be mounted on a resilient layer (rubber or cork).

The floor of the switching room should also be made to withstand loads up to 1000 kg/m<sup>2</sup> (205 lb/ft<sup>2</sup>).

### BATTERY ROOM

When a storage battery is to be used for emergency lighting, it must be placed in a separate, well-ventilated room.

# bigger than life a 70 mm season

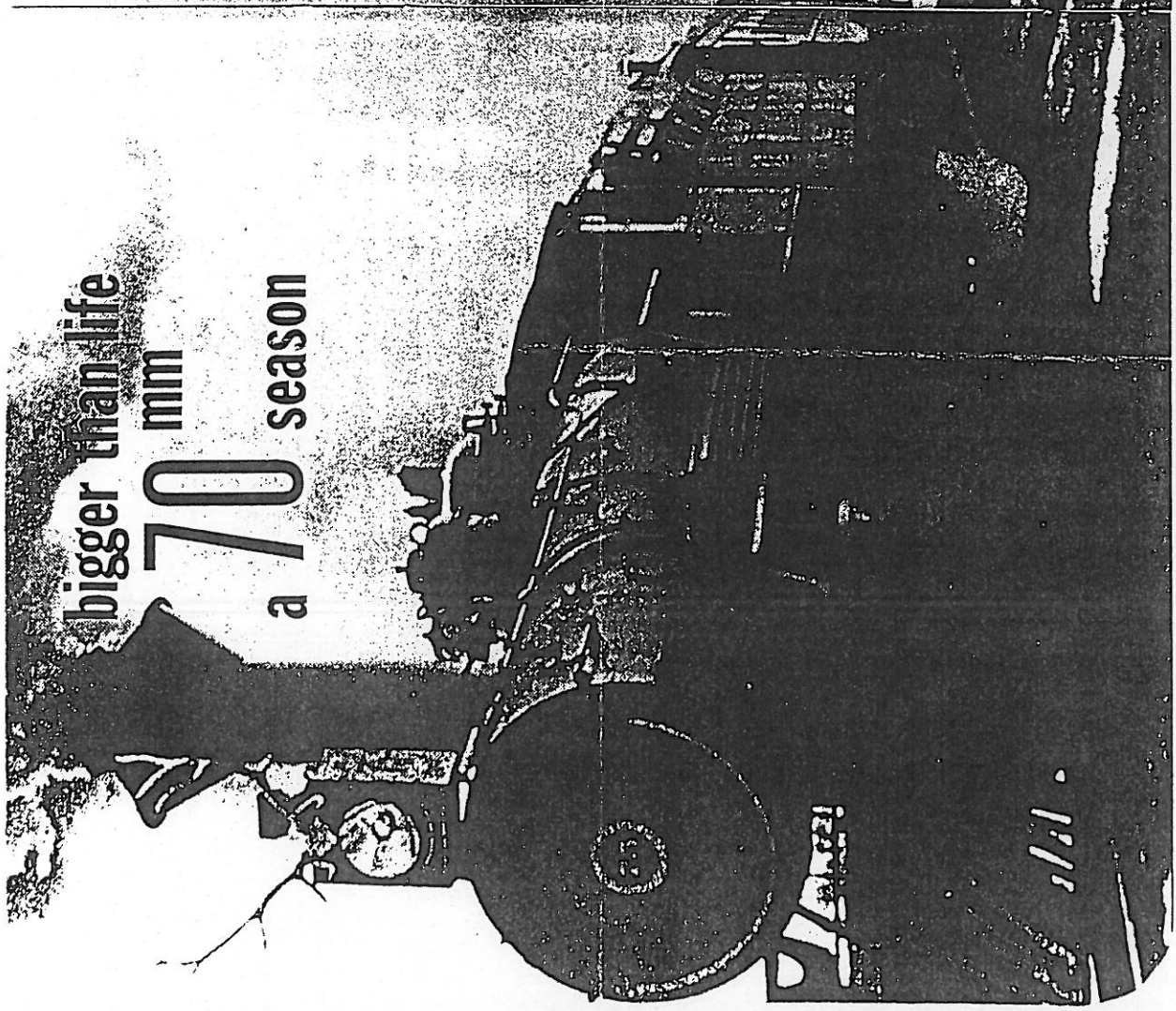
The technique of 70mm cinematography is not all that new: in the late 20s, during a period of experimentation with wide-screen film-making in Hollywood, Fox made a number of films in a process called Grandeur-70, though none of them has survived in this form. It was not until the 50s, however, that the American film industry, confronted by the challenge of television, embarked on the systematic commercial development of widescreen cinema, and in 1955, with the invention of Todd-AO, the 70mm spectacular as we know it was born.

'Spectacular' is, of course, the word: the widescreen formats in general, and 70mm in particular, have been used to take the epic possibilities of the cinema to their logical conclusion, and in the last ten or fifteen years remarkable advances in the fields of sound and special effects have given rise to a form of 70mm spectacle which is entirely dedicated to engulfing and overwhelming the spectator. Many of these films fulfil Keats's demand for a life of sensations rather than thoughts in giving, with which, one feels, he would not have been very happy, but in some of them the grandeur and authority of 70mm has been realised with remarkable power and authority. In the hands of

Kubrick and Cimino, Tati and Ridley Scott, spectacle on the grandest scale is also the medium of a complete poetic vision.

Most of the films in this season are contemporary Hollywood blockbusters, and it should be pointed out that this emphasis has been determined by serious problems of film availability. When we started planning this season twelve months ago we intended firstly, to trace the historical development of the 70mm process, and secondly to pay tribute to its major artistic achievements: the original film list included, amongst other titles, *Exodus*, *El Cid*, *Cheyenne Autumn*, *Lawrence of Arabia*, *Barabbas*, *55 Days at Peking*, *Le Diable à cinq*, *Dames de Rochefort*, *Days of Heaven* and *Ders Uzala*. We gradually discovered, either that 70mm prints of these remarkable films are not available in Europe at all, or that the only accessible prints are not in sufficiently good condition to be shown at the NF. That these and other works are not available to us in the form in which their directors intended them to be seen is obviously deplorable, and it is to be hoped the preservation of the classics of 70mm cinema will become one of the priorities of the world's archives.

—Andrew Britton.



The 70 MM Newsletter is published bi-monthly and sent free to the members of the International 70 MM Association.