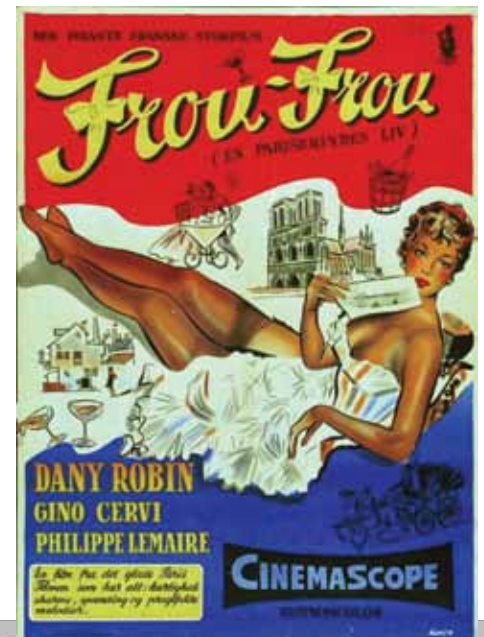
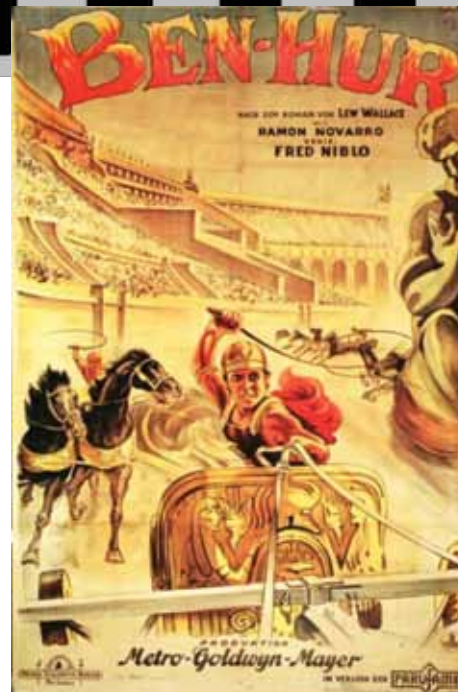


WIDESCREEN HISTORY



CinemaScope
Cinerama
Cinemiracle
Kinopanorama
CinemaScope 55
VistaVision
Super Technirama 70
Panavision Super 70mm
Todd-AO
MGM Camera 65
Dimension 150
Showscan
Imax/Omnimax

International 70mm Publishers, The Netherlands



International 70mm Publishers present:

WIDESCREEN HISTORY

Editor and publisher: Johan C.M. Wolthuis, Arnhem, The Netherlands
Co-editor: Jan-Hein Bal, Amsterdam, The Netherlands

Guest writers: Jan-Hein Bal, Amsterdam; Michael Coate, Los Angeles;
Alain Dorange, Malaysia; Thomas Hauerslev, Denmark; Bill Lawrence, Halifax; Tom March, Calgary
Duncan McGregor, Bradford; Rick Mitchell †, Los Angeles; Paul Rayton, Los Angeles; Nigel Wolland, London.

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Front cover picture: Pictureville Cinerama Theatre, National Media Museum, Bradford, UK



A Summary of Wide Screen Processes

Cinerama (1952)

Cinerama has changed the size of the cinema screen forever! Filmed with three interlocked 35mm cameras, side-by-side, using a special 6-perforations pulldown film frame (normal 35mm frames have 4-perf pulldown). The film speed was changed from normally 24 into 26. Cinerama is projected by three interlocked 35mm projectors, with 6-perf frames pulldown, on an extremely wide and deeply curved screen that captures an angle of view of 146°! The sound comes from a separate 35mm film with 7 magnetic soundtracks.

CinemaScope (1953)

This process captures with an anamorphic (squeeze) lens 2x a wider field of view than with conventional (spherical) lenses on 35mm film. When projected with the same kind of anamorphic lens the nominal screen ratio is usually specified at 2.35:1 though it has changed over the years in some versions to as much as 2.55:1. CinemaScope was the first widescreen process to achieve world wide commercial success and therefore known as the “granddaddy” of all wide-screen systems. In the beginning CinemaScope prints had four magnetic soundtracks on the 35mm film and no optical sound. With the advent of optical stereo soundtracks, the magnetic sound tracks fell into disuse.

VistaVision (1954)

This is a 35mm double-frame 8-perf picture running horizontally through the camera instead of vertically as is normal. Full-size projection in the 8-perf horizontal mode was only rarely employed and required a projector to have the film run horizontally through the machine. For general release the VistaVision prints were optically reduced to conventional 35mm prints which could be projected at an aspect ratio of 1.85:1 and 2.00:1, without the need for a special projector. Paramount's recommendation was to use the 'normal' reduced 35mm prints on a standard screen with notable results. The reduction of the reduced prints was done by Christm?

Todd-AO (1955)

Todd-AO was the first of all 'modern' 70mm processes (following on various developments of the late 20s) and had its premiere in 1955. It uses a 65mm camera with 65mm negative film stock and initially ran at 30 fps. Newly developed spherical lenses for the Todd-AO camera added a wide-angle view to the picture without the troublesome lateral distortion that had bothered some CinemaScope productions. The original 'bug-eye' lens developed by American Optical, however, had its own set of distortion problems and was therefore only used for segments of Oklahoma! and Around the World in Eighty Days. Prints were made onto 70mm film stock to have room for 6 magnetic soundtracks and projected without the need of an anamorphic lens. The screen was specified as having a moderate curve, not the deep curve of Cinerama. Beginning with the third Todd-AO production, South Pacific, the frame rate was standardised at 24 fps. In the nineties the use of magnetic soundtracks on film was prohibited and replaced by a system with an optical timecode reader scans the timecode frames and sends the data to the DTS processor to produce the sound which comes from a CD-ROM.

CinemaScope

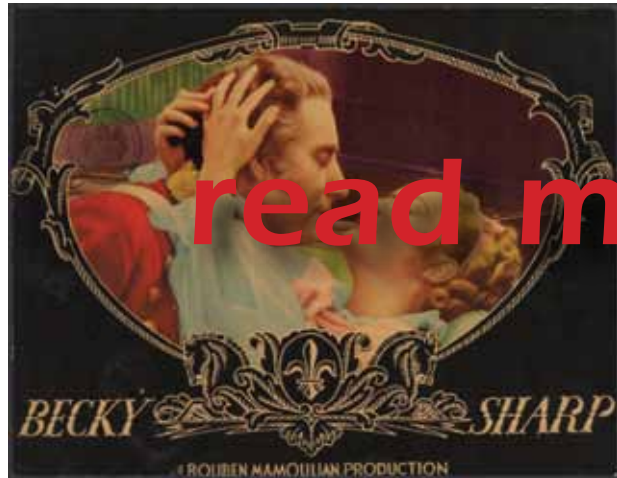
This process uses an anamorphic lens to squeeze a wider field of view onto a standard 35mm film frame.

MGM Camera 65 (1957) + Ultra Panavision 70 (1950)

Before any screening of a Todd-AO 70mm film had even taken place, in April 1955, MGM decided to put their top productions with 65mm cameras. The MGM Camera 65 were designed by Robert Surtees who had developed a totally new optical system. They had incorporated an anamorphic spherical lens with a slight vertical compression ratio variation. The system had the same resolution as the standard system achieved for conventional projection. The system was used for this exhibition in Miami.

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Around the end of the 19th century, soon after motion pictures had been projected for the first time in front of the public, film makers were looking how to add colour to their moving pictures. Soon, in 1896, hand-coloured films were presented to the public. This was a very difficult task, as each frame in the film had to be coloured by hand using two, three or four colours. Despite the difficult task, for one minute of film nearly



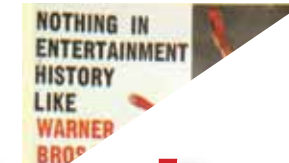
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1000 frames had to be coloured, it remained in use for several years, until the demand for many copies made it impossible to meet the needs of multiple copies.

In the 1903 production of **The Great Train Robbery**, the gunshot blast at the end of the film was coloured by hand tinting! In **The Birth of a Nation**, **White Rose**, **Intolerance** and other productions, D.W. Griffith also used hand-tinted newspaper writer describes the tinting process as 'blue for the Judean story, green for the Babylonians and the Egyptian story, while sunny exterior scenes are tinted blue and night battle scenes in the 1910s. By 1920



nicolor' film, as they called the process, superimpose the two coloured images at the same time on screen were they formed the completed colour. Although the process consisted of only tinting in red and green – it required a special camera and the adjusting of the two frames to form a film.





Debbie Reynolds



read more... in the book



Pictures by Tom March and Dave Strohmaler



as a young boy were the start of his admiration for Cin-



...CinemaScope 55



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with the new 'talkies' sound films! Prof. Henri Chretien demonstrated his anamorphic lens in 1931 and 1935. Paramount Pictures took an option on the lens and shot a number of test reels, but then decided to stop further developments. In 1937 Chretien exhibited his lens in a widescreen presentation at the Paris Exhibition, but nobody was interested in any further developments.

After the premiere and huge success of Cinerama in 1952, the film companies were thinking how to regain the public interest back and so they revived one of their dormant attractions 3-D films. Despite nearly sixty stereoscopic films had been produced from 1952 until 1955, the audience soon got tired of wearing polarized spectacles and so 3-D was abandoned again in favour of the wide screen. In December 1952, within months after the premiere of Cinerama, 20th Century Fox signed a contract with the French producer Henri Chretien for the rights of his anamorphic lenses. **CinemaScope** as Fox called it was their answer to Cinerama. Their first production on stage was **a Millionaire** (1953) - How to Succeed in Business Without Really Trying. It decided to have the film shot in CinemaScope with the new lenses.

Twentieth Century Fox Symphony Orchestra conducted by Alfred Newman playing his own composition "Cinerama scene". According to the newspaper: "You see it with the orchestra. That is possible in CinemaScope." The orchestra was why the film was better than any other in CinemaScope. The orchestra was on the movie screen. The orchestra was in the movie screen. The orchestra was in the movie screen.



Anamorphic lenses on a camera compress and stretch the image in width, while in projection with the same type of anamorphic lens, the image is stretched, bringing the image a wider aspect ratio. The first motion picture image ratio of 1.37:1 was used in 1862 the first anamorphic lens was invented in Britain while the Zeiss Company was invented in 1898. And in 1929 the 'Cinerama' was introduced as the first widescreen in motion picture film production.

Over a century ago, motion picture standards for photography and presentation basically were set and have only been altered significantly on two occasions: first by the **innovation of sound** in the late Twenties, and second by the “**widescreen**” revolution that began in the early Fifties and continues to this very day.

To recap, in January 1953, Fox licensed Professor Henri Chretien’s Hypergonar lens, which he had developed in France during the latter part of the Twenties. During photography, this cylindrical, “anamorphic” lens would record almost twice as much horizontal information as its spherical counterpart. By optically compressing or “squeezing” the horizontal image by a factor of two, the anamorphic lens was able to record its wider image on the same 35mm filmstock while employing the same motion picture cameras that were already being used by the major studios. To project the widescreen image, existing theatres merely needed to equip their projectors with a similar cylindrical lens that would unsqueeze the image and spread the picture across an appropriately wider screen. Fox called its new process “CinemaScope” and sought to make it a new industry standard.

Almost overnight, other studios, especially those with a large backlog of unreleased spherical films, panicked and began to look for other ways to jump on the widescreen bandwagon. Many of these studios simply chose to mask off the top and bottom of the 1.37:1 photographed image during projection, creating the illusion of a wider image. The resulting, and competing ratios used by the various studios were 1.6:1 (Warner Bros., RKO, Republic), 1.75:1 (MGM, Fox Bros.), and 1.85:1 (Universal, Columbia). Once they had released their films, these studios began to establish their own projection process as a standard by which their films would be lost due to the fact that they had decided not to go for this route.

Another approach to widescreen photography and projection occurred in 1954, when Panavision and Superscope developed lenses for optical printers which made it possible to make anamorphic prints from spherical negatives. The Superscope system, which had a brief spurt of popularity in the mid-Fifties, transformed entire spherical features into anamorphic. The Superscope system was used under such names as Superama and Megascop until 1963, when it was supplanted by the introduction of Techniscope by Technicolor.

Challenging the CinemaScope Standard

Soon after the introduction of CinemaScope in 1953, many anamorphic challengers began to appear on the horizon. When it set up CinemaScope as its standard, 20th Century-Fox thought it had cornered the market. Fox intended to own the rights to the license it to other companies. However, when it discovered its rights were being infringed upon, it obtained from Professor Chretien, an American inventor, an American patent with anamorphic lenses. This was a public domain invention.



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in time. Instead, on **Rear Guard**, which began shooting in July 1953, Warners used a lens system called "Vistarama", that had been developed by the Simpson Optical Company for Carl Dudley. By September, when the Zeiss lenses finally arrived at Warners, the studio tested them by shooting footage of the Hollywood Premiere of **The Robe** which it planned to use for a sequence in **A Star is Born**. When Warners reviewed the footage, however, it found, much to its dismay, that the Zeiss

According to the late film historian Ron Haver (who spearheaded the restoration of **Star!** (1968) in the early Eighties), when **A Star is Born** was being restored, the only version that could be located of a scene in which Judy Garland is seen working as a carhop was one that was shot with the WarnerScope Zeiss lenses. Curiously, in the late Fifties, Warners would revive the WarnerScope name for three features that actually were shot in the Superscope/Super 35 format.



lenses had poor resolution. The picture production. **A Star is Born** in

While the production costs were rising on **A Star is Born**, Warners' treasurer, Albert Warner, who was impressed by the grosses from **The Robe**, convinced Harry Warner to go over Jack's head to arrange with Fox to use CinemaScope. Jack Warner was finally convinced by the test CinemaScope footage shot by Milton Krasner, ASC, and decided to scrap the first ten days of shooting and start over.

As a part of the new CinemaScope, Warners agreed to release the Vistarama picture **The Command**, as a "CinemaScope picture opened, critics noted it was as sharp as those shot in the old format. Some critics even noted that the picture was near the edge of the screen, giving the test picture a Foreign Quality."

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by Michael Coate

Tonight THE NEW ENTERTAINMENT ERA IS HERE!

20th Century-Fox presents

CinemaScope, the new dimensional photographic marvel, makes you part of the Miracle of THE ROBE... as the imperial might of Rome crashes against the World of God, CinemaScope's Anamorphic Lens on the newly created curved Miracle Mirror Screen achieves life-like realism and infinite depth. CinemaScope's Stereophonic Sound reaches new heights of participation, engulfing you in the greatest story of love and faith ever told.

The Robe in CINEMASCOPE

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After Premiere Tonight... REGULAR CONTINUOUS ENGAGEMENT STARTS THURSDAY! OPEN MON. THROUGH SAT. AT 8:45 A.M. Feature at 8:00, 11:30, 2:00, 4:30, 8:00, 9:30

PALACE

20th Century-Fox presents A CinemaScope Production **The Robe** Starring RICHARD BURTON • JEAN SIMMONS • VICTOR MATURE • MICHAEL BENNIE With Joy Robinson • Dean Jagger • Tina Turner • Richard Boone • Yvonne De Carlo • Jeff Morrow • Ernest Borgnine Screen Play by PHILIP DUNNE From the Novel by LLOYD C. DOUGLAS Adaptation by Gina Kurtz Directed by HENRY KOSTER Produced by FRANK ROSS

PRICE POLICY
SPECIAL SHOPPERS' EARLY MATINEE MON. THRU SAT.—8:45 A.M. to 10:00 A.M. ADULTS \$1.00 • CHILDREN 50¢
MON. THRU FRI.—10:00 A.M. to 5:00 P.M. ADULTS \$1.00 • AFTER 9 P.M.—\$1.50
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"... THE SPECTACLE HITS YOU FOR SIX... I AM STILL RECOVERING FROM THE IMPACT." Reg Whitley, "Daily Mirror."

"... STAND UP AND CHEER FOR THIS ONE." Peter Burnup, "News of the World."

PANORAMIC SCENE AFTER PANORAMIC SCENE

ALL THE MIGHT OF THE UNCONQUERABLES

AND THEIR SEVEN DAYS OF DARING!

WARNER BROS. BEST PRODUCTION IN

THE COMMAND

IN WARNERCOLOR

"THE COMMAND" GUY MADISON • JOAN WELDON • JAMES WHITMORE • CARL BETTON ROED • HARVEY LEMCKE • RUSSELL HOBBS

MADE AND RELEASED BY WARNER BROS. • DIRECTED BY DAVID BUTLER

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THE PICTURE THAT'S THE TALK OF THE NATION!

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Glorious in

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M-G-M's **"SEVEN BRIDES FOR SEVEN BROTHERS"**

FIVE-MAKING SONGS!
"You're in Love"
"Bless Your Beautiful Wife"
"Send 'Em Out"
"Wonderful, Wonderful Day"

...and more songs!
"Dobbin' Women"
"Spring, Spring, Spring"
"Seven Brides"
"Lanes!"

STARRING JANE POWELL • HOWARD KEEL

JEFF RICHARDS • RUSS TAMBLYN • TOMMY RALL

Screen Play by ALBERT HACKETT & FRANCES GOODRICH and DOROTHY KINGSLEY
Based on the Story "The Seven Brides for Seven Brothers" by STANLEY BRONFENBRENNER
Lyrics by JERRY MERZER • Music by GENE DE PAUL • Choreography by MICHAEL ROSS
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Star List includes:

Richard Anderson Edward Arnold Lucille Ball and Desi Arnaz Barbara Bates Margo & Gower Champion Oye! Charisse and Tony Martin Wendell Corey Joan Crawford Robert Cummings	Tony Curtis and Janet Leigh William Demarest Vic Damone Marilyn Erskine John Ericson Rhonda Fleming Zsa Zsa Gabor Robert Horton Kathleen Hughes Grace Kelly Angela Lansbury	Piper Laurie Joel McCrea and Virginia Mayo Francis Dea Marjorie Main James Mason Marilyn Maxwell Ann Miller Carmine Moore George Murphy J. Carroll Nash Maureen O'Hara	Michael O'Shea and Virginia Mayo Jane Powell Tyrone Power and Linda Christian Mala Powers Bryan Palmer Edmond Paddon Debbie Reynolds Edward G. Robinson Barbara Ruick Daine Stewart	Betta St. John Russ Tamblyn Ursula Thiess Tamara Toumanova Danny Thomas Verz-Ellen Chris Warfield Clifford Webb Marie Wilson Chill Wills Ester Williams Shelley Winters
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M-G-M PROUDLY PRESENTS ITS FIRST GREAT PRODUCTION IN

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Screen Play by TALBOT JENNINGS • JAN LUSTIG and NOEL LANGLEY Based on Sir Thomas Malory's "LE MOUSSE D'ARTUR"
Directed by RICHARD THORPE • Produced by PANDRO S. BERMAN

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ETHEL MERMAN • COMLE FURNER • MARYLYN WONG
DANIELLE • JOURNAL RAY • THEATREMAN
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CINEMASCOPE
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in color TECHNICOLOR in CINEMASCOPE

REGIE • RICHARD QUINE

in Kluge's door

MY SISTER EILEEN

ROBERT FOSSE • HURT KASZMAR
ESSEX BRONX
BLAKE EDWARDS
RICHARD QUINE

The First Anamorphic Movies in France (a chronology) by Alain Dorange

Hypergonar Movies from Henri Chretien (Aspect Ratio 2.66:1)

- 1929 **La vie merveilleuse de Jeanne d'Arc**, fille de Lorraine (Saint Jean the maid). Directed by Marco De Gastyne.
 - 1930 **Construire un feu** (To build a fire). Directed by Claude Autant Lara.
 - 1931 **Une visite aux merveilles de l'Exposition Coloniale Internationale de Paris** (A visit to the marvels of the International Colonial Exhibition). Short directed by Benoit et Pierre Levent. This movie was inclusive of vertical anamorphic sequences as well as horizontal ones on a cross shape screen.
 - 1931 **La femme et le Rossignol** (The woman and the Nightingale). Directed by Andre Hugon.
 - 1937 **Phenomenes Electriques** (Electric Phenomenous). Cartoon directed by Paul Grimault.
 - **Panoramas au fil de l'eau** (Panoramas by the river) Film directed by Jean Tedesco.
- Those two movies were each projected by means of two projectors and a third one for the sound track. The two projectors (a kind of Cinerama) were giving a complete picture with an aspect ratio of 6.00:1 and projected on a giant screen of 60m wide by 10m high. This was demonstrated at the front of the Palace of Light during the EXPO 1937 in Paris.
- 1949 **Lancement du navire Laurent Saint Clair aux chantiers de La Ciotat** (Launching of the SS Laurent Saint Clair at La Ciotat shipyards). Movie sponsored by those shipyards.
 - 1951 The professor **Henri Chretien** did some demonstrations of the Hypergonar at the Congres Tech International in Turin (Italy).

The beginnings of Cinemascope

The Cinemascope trade name started in 1953, but actually there were two movies shown at the same time: The documentary **Le Robe** and **Les Victoires**. The latter was shown in Vistarama and showed the afternoon of the same day

by 9.5m high and with 1.2m deep at the center of the curve.

June 18th 1953: 20th Century Fox are presenting some demos at the theatre LE REX in Paris.

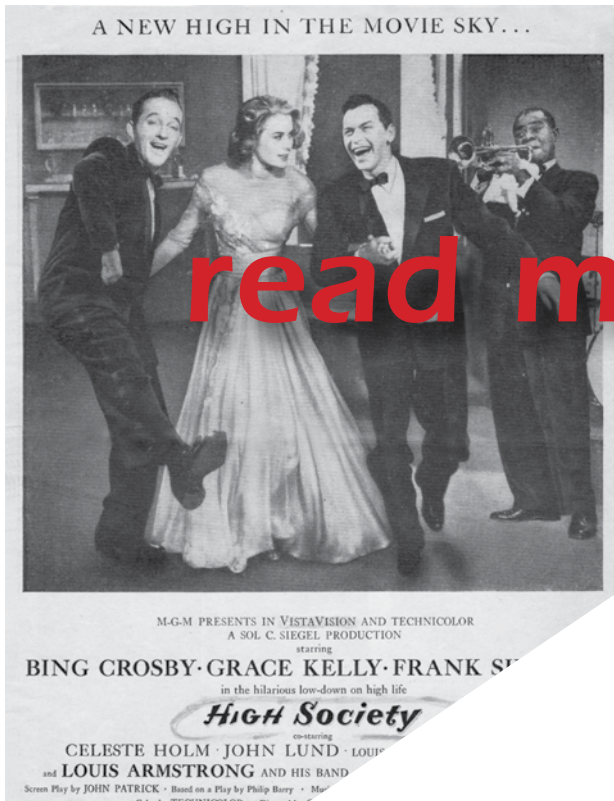
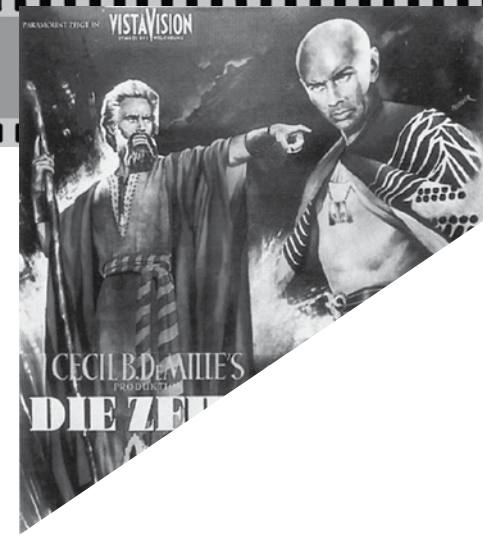
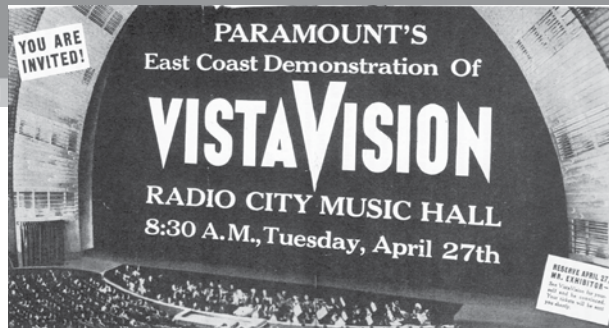
December 4th 1953: **La Tunique** (The Robe) is having the first engagement in Paris at the two theatres **Le Rex** and **Le Normandie** on flat screen. Aspect Ratio of 2.55:1 with magnetic sound. Before this feature a short was screened called **Horizons Nouveaux** (New Horizons) directed by Marcel Ichac. This was the first French Cinemascope movie and was later also shown at the Festival de Cannes 1954. Between 1954 and 1955 only four French movies were shot in Cinemascope with magnetic sound and then similar French anamorphic lenses: **Oasis** from Ives Allegret, **Fortune carrée** (Square Fortune) from Bernard Borderie, **Frou Frou** from August Genina and **Lola Montes** from Max Ophuls.

After December 1953, 18 theatres were redecorated to accommodate the screen and the surround sound. By the end of February 1954, 70 theatres were equipped. However there was no interest from the public for the time being. The studios added an optical correction. The aspect ratio was reduced from 2.55:1 to 2.35:1. In 1954, the date this soundtrack was added. The aspect ratio changed again until today. The Cinemascope movie is still a mystery.

January 15th, 1954: **Marseilles** Short demonstrated at the Gaumont Palace (Paris) with an aspect ratio of 2.55:1 so was similar to the ratio of Cinemascope. February 22nd, 1954: **Le French Can Can Rouge**. First featured in Cinemascope at the Gaumont Palace and Le Marignan. June 4th, 1954: **Les Victoires** (The victories of the French during the French Film Festival). September 7th, 1954: **L'Or** (The Gold). This was a short film produced by the USA and distributed by Warner.

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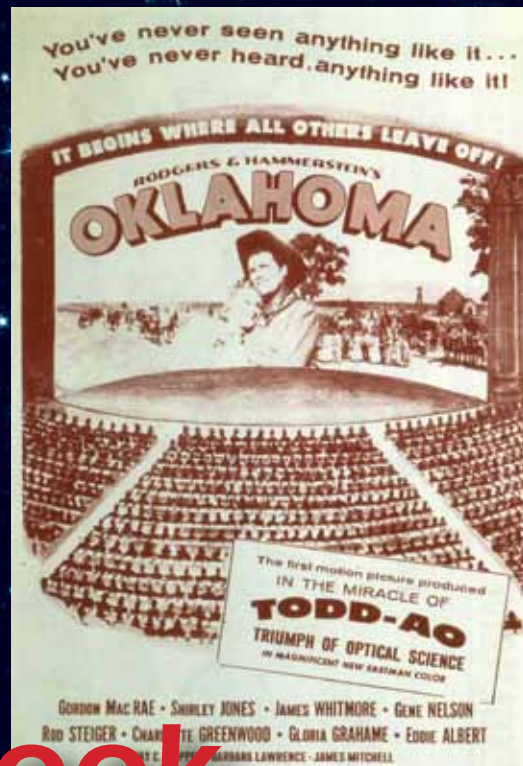
With the successful introduction of **CinemaScope** by 20th Century Fox, Paramount Pictures decided that it was time for them to develop their own process. They were impressed by the larger screen of CinemaScope but they were not enthusiastic about anamorphic lenses with poor depth of field, visible high grain and sometimes poor focus. Then they felt back on an old double frame 35mm horizontal widescreen system from 1928, called **Panoramico Alberini**. After different experi-



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ments a new camera w
 Lazy 8 Camera with
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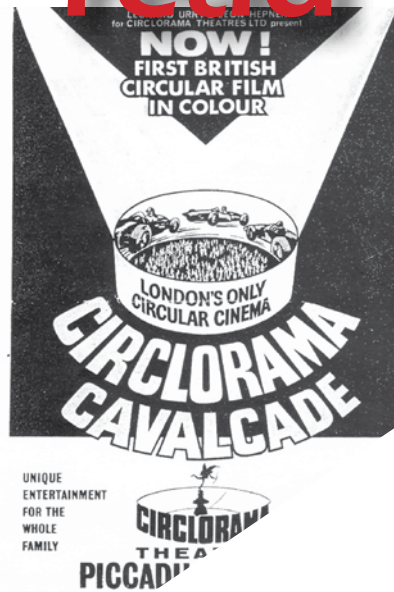


Oscar Hammerstein II



Cinéorama, Circarama + Circlorama

The first circular motion picture presentation dates back to 1900 when Raoul Grimoin-Sanson presented his Cinéorama at the Paris World Exposition. The system used ten synchronised 70mm projectors to throw a 360° panoramic image on a huge circular screen. The audience was seated on the large floor above the projection room with the screen around them, simulating they were in a large basket of a giant balloon! The hand-coloured film, called **A Balloon Trip Around the World**, was indeed filmed from a balloon, taking the audience on an aerial voyage above the large capitals of Europe. The unique Cinéorama process was only shown in public at the Paris Exposition of 1900 along with another widescreen presentation by the Lumiere Brothers. It was closed after three days because the projection booth in the middle with the ten projectors became too hot with a great risk of fire.



In July 1955 the **W**
Circarama s/v
 Kodak 16

films covering the entire 360° horizon and eleven synchronized projectors produced an image of 2.4 metres high on a 12 metres circular screen around the standing visitors. Each projector was set up to throw its images through the gap between two pictures onto the opposite screen. The spectators are finding themselves in the center of a circular screen, while the action flows all around them in every direction. They feel themselves part of the movement when the scene is taken from a moving vehicle. The Circarama system was also introduced in April 1958 at the World Fair in Brussels. The Circarama filming unit spent many months criss-crossing the United States to get spectacular views of life in the US in 1957 to have a completely new film ready for the 1958 Exposition in Belgium, with spoken comment in four languages: English, French, German and Dutch. By 1960 the Circarama system had been simplified (taking 9 films and 9 projectors instead of eleven

In 1957 the Russians had developed a system called **Krugorama** Panorama. In 1958 it was replaced by the use of 22 screens in two rows. The upper screens showed scenes while the lower screens showed other scenes. As usual the Soviet system was clear that the circular projection was for the benefit of the audience.

synchronized and all are started from a master controlled by one engineer. A nine-channel magnetic sound system was fed into the fifty speakers situated behind the screen and in the ceiling. At least four projectors were needed as every man was responsible for his own projectors. The only British film made for this theatre in London and abroad, it was called **Circlorama Cavalcade**. For this film 16mm machines were used.

In 1958
 Ge

read more... in the book

The Splendour of 70mm and Todd-AO

Michael Todd was a true showman, who had been involved in a lot of entertainment business, like stage shows, state fairs, night clubs and other live entertainment. Since he had been invited for a demonstration of the Cinerama process in December 1950 he was so impressed that he joined the company and got immediately involved in supervising the filming of the European part of **This Is Cinerama** together with his son Michael Jr. Six months after the premiere of the first Cinerama



Michael Todd and Michael Todd Jr

film in 1952 in New York, Todd left the Cinerama company despite the huge success. He sold his shares because he was disappointed as the board of directors didn't want to listen to him when he was pointing out the shortcomings of the 3-panel projection. Todd's aim was to develop a process with the same wide screen as Cinerama but with a less complicated camera. He contacted Dr Brian O'Brien from American Optical, who understood what he wanted: to develop a process that would project a large screen. So

he bought new lenses for a 65mm camera, knowing that the old Mitchell 65mm cameras from the thirties were still somewhere stored in a warehouse. In 1930 they were used by Warner Brothers for **Kismet**, by United Artists for **The Bat Whispers** and by MGM for **Billy The Kid**. But the wide film processes were not a great success at that time, because the cost of conversion for a new screen and new projectors could not be afforded by most cinema owners after they had just installed new sound film equipment. So the old 65mm cameras were stored for more than 20 years until 1953 when Dr O'Brien and his team started developing the new **Todd-AO** process. AO comes from American Optical and Todd from Mike Todd. However, they still needed nearly two years to develop the revolutionary new 70mm process.

Michael Todd knew that he would get only one chance that his new process would become a success, so he started assembling a group of talented people for his project. Among them Joseph P. Skouras, both from United Artists and from the British film industry, and Arthur Hornblow and top directors from England, forming the Todd-AO process. Todd's aim was to show in a first major city a film in Todd-AO process.

On 13 October 1954, the film **Oklahoma!** was shown in the Rivoli Theatre in New York. The truth for a long time was that the film was simultaneously shown on CineramaScope cameras at the same time.

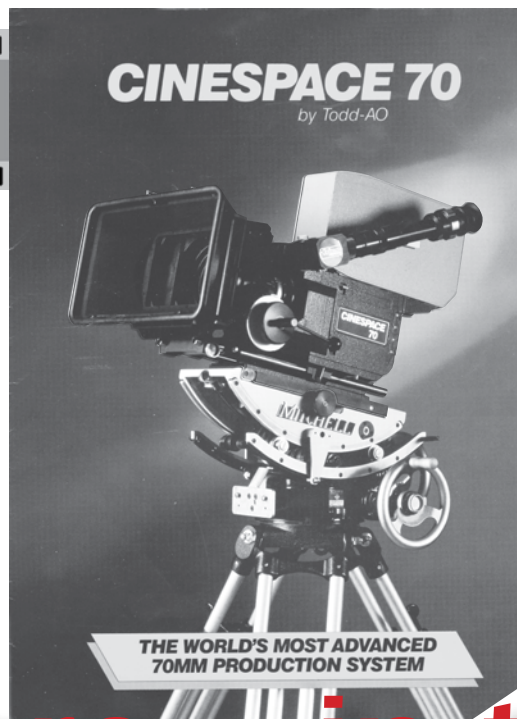
On 13 October 1954, the film **Oklahoma!** was shown in the Rivoli Theatre in New York. The truth for a long time was that the film was simultaneously shown on CineramaScope cameras at the same time.

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had it made because he wanted to show the possibilities of his Todd-AO process. After one year the 35mm CinemaScope version of Oklahoma! was distributed at smaller theatres as a regular film with regular admission prices.

While American Optical was responsible for the overall design of the process, they subcontracted the camera work to the Mitchell Camera Corporation. There were only eight BFC 65mm cameras ever manufactured by the Mitchell Company! The development of the special projector was done by the well-known Philips Electrical Company of Holland. With a lot of experience in the construction of 35mm projectors they succeeded in producing a revolutionary new projector in six months time that would run both 35mm and 70mm film, enabling a cinema exhibitor to screen motion pictures in both formats for a simple changeover. In 1954 the Philips Company was awarded with an Oscar for the design of this multi purpose projector DP 70 that could handle both 35mm and 70mm film. Till today there are still cinemas who have these DP70 running after 50 years! One of them is the new EYE film theatre in Amsterdam.

The second movie in Todd-AO, Mike Todd's **Around The World In 80 Days**, was an even greater hit than Oklahoma!. This film was shot in two versions: one in 65mm - 30 fps for the 70mm release and the other in 65mm - 24 fps to be printed down to Technicolor 35mm release prints. To finance his film Todd had



M:

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sell the rights of the Todd-AO process to Fox. The result of this deal was that Todd to screen 70mm Todd-AO royalties to them! But Todd didn't because he could produce from the 65mm 24 frame especially in Europe owners didn't want to invest in the history of M

"THE MIRACLES"

A Prologue that



JOIN in the excitement of roller coasters

MGM Camera 65 + Super Panavision 70 + Ultra Panavision 70

Panavision was established in 1954 when there was a strong demand for new high quality anamorphic projection lenses. The founder of Panavision Robert E. Gottschalk brought together a team of technicians who developed an anamorphic projection lens with better quality than the original CinemaScope lenses. In a few years 35 000 of these lenses were sold. Panavision is a company, based in Woodland Hills, California, known world-wide for its cameras and lenses. You won't find a wider range of high quality anamorphic lenses or cameras anywhere.

When **Oklahoma!** went in production in July 1954, the Todd-AO company rented Stage 2 at MGM Studios for checking the daily rushes. MGM being afraid to miss the 70mm boat decided to develop their own 70mm process and to produce all of their top productions with 65mm cameras. So in early 1955 they asked Panavision to develop anamorphic camera lenses for MGM's new widescreen process. These lenses had a 1x1.33 squeeze ratio, resulting in an aspect ratio to a colossal 2.75:1 (Todd-AO aspect ratio is 2.20:1). The process became known as **MGM Camera 65**. For their first 65mm production MGM choose **Raintree County** with Elizabeth Taylor and Montgomery Clift, released in 1957. They had planned to release it in 70mm, but all 70mm cinemas then in existence were occupied with showings of the Todd-AO feature **Around the World in 80 Days**. MGM decided against acquiring additional 70mm projectors at that time, so **Raintree County** was released as a 35mm anamorphic print reduced from the 65mm original. The second motion picture using the MGM Camera 65 process was the biblical **Hur: A Tale of the Christ** released in 1958. It was very popular by both audiences and critics, and was awarded with eleven Academy Awards. After these two epic movies, MGM decided to completely reconstruct their camera line. They replaced all Cameras into new models. The new line handled Panavision's anamorphic **MGM Camera 65** process.

same format, although Camera 65 originally started with a squeeze of 1x1.33, creating an aspect ratio of 2.94:1, later reduced into a squeeze of 1x1.25, giving an aspect ratio of 2.76:1.

Famous films in this new process were **Mutiny on the Bounty** (1962) and **It's a Mad, Mad, Mad, Mad World** (1962) that was also advertised as Super Cinerama when screened in Cinerama theatres. **The Fall of the Roman Empire** and **The Battle of the Bulge** followed in 1964. Ultra Panavision 70 was also used in some parts of **How The West Was Won** (1962) and optically converted into 3-panel Cinerama.

In 1964 Panavision developed an optical printing process to produce 70mm release prints from anamorphic 35mm films. Now it was no longer necessary to use 65mm cameras, to produce a 70mm print could be easily be optically converted from the original 35mm anamorphic print. These are the so-called 70mm 'blow-ups'. Panavision's president stressed that this process was not meant to replace the original 70 processes, this was only a conversion of the original 35mm anamorphic prints into 70mm prints. **Director Zoltan Korda** first used this process in 1964 with **The Fall of the Roman Empire**.

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In 1957

USSR international coproductions in 35/70mm Sovscope

Technology

During the Krushchev era the USSR joined the Western widescreen revolution - and Cold media War - with their own but compatible technology, including anamorphic 35mm (here named Sovscope-35), Sovscope 70mm productions (here named Sovscope-70) and blow-ups. Until the 1970s all Soviet single-lens 35mm widescreen films were 1:2.35 anamorphic, without masked widescreen. According to Victor Komar (of NIFKI, Research Cinema Institute) "Nonanamorphic widescreen cinematography with an aspect ratio of 1:65:1 to 1:85:1 is not practiced. This method is considered artistically inferior and without marked advantages over the standard method... Since cinema studios as well as most of the theatres are state property, we can carry out standardization more fully and the types of systems used are restricted to those of the best quality" (Cinematograph in the USSR, SMPTE Journal, March 1964).

Output

The disputed and questionable first Soviet 70mm feature **Poema o more** (Poem of the Sea, 1958) was followed by a worldrecord of 70mm films. The 2009 Berlinale publication 70mm Bigger than Life lists some 175 Soviet 70mm productions excluding (at least one hundred) blow-ups, but an accurate unravelling between Soviet 70mm productions and blow-ups is still a major challenge while the Soviet information on www.in70mm.com remains basic. Half of these films were produced since 1975, a moment when 70mm was more popular than ever while Western 70mm production already in decline. Obviously the 70mm industry not survive without the USSR infrastructure (except Stereo-70) ended in 1989 when productions became unsuccessful. Sovscope-35 was introduced with *Sword and the Dragon* (1988) (see www.cinemamuseum.com list of Sovscope-70 films) and *India Wide Screen* (1988) (see www.cinemamuseum.com list of Sovscope-35 films).

Daniel Sherlock excludes Sovscope in his detailed corrections to Carr + Hayes on Film-tech.com/warehouse/tips/WSMC20.pdf.

According to Agnes Surkova in 2012 "By the end of the 50s widescreen films in the West, made up more than 50 percent of the cinema repertoire; however in the USSR this number could barely measure up to the mark of 5-7 percent" (Sight and Angle in the Cinema of Latvia, Widescreen in the 1950 and 1960s. Kinokultura.com/specials/13/surkova.shtml). The largest Soviet studio Mosfilm nevertheless released until 1989 over 500 features in Sovscope-35 and other Soviet studios produced further anamorphic films. Until 1962 ten Sovscope-35 features were produced and according to the Sovexportfilm sales company "In 1969 the USSR produced 132 feature films and 1100 short, chronic, documentary, popular science and educational films. About half of all the films currently produced in our country are for the widescreen" (Learn More About Soviet Cinema. 1970).

Widescreen cinemas

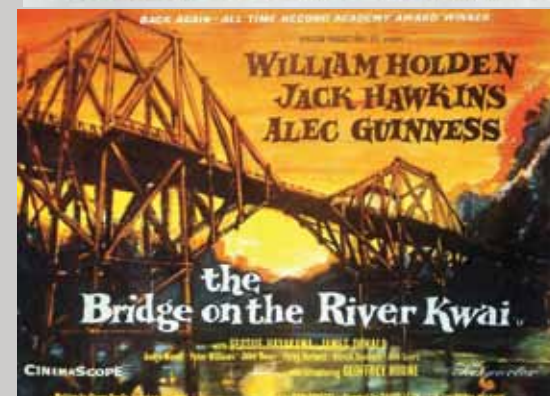
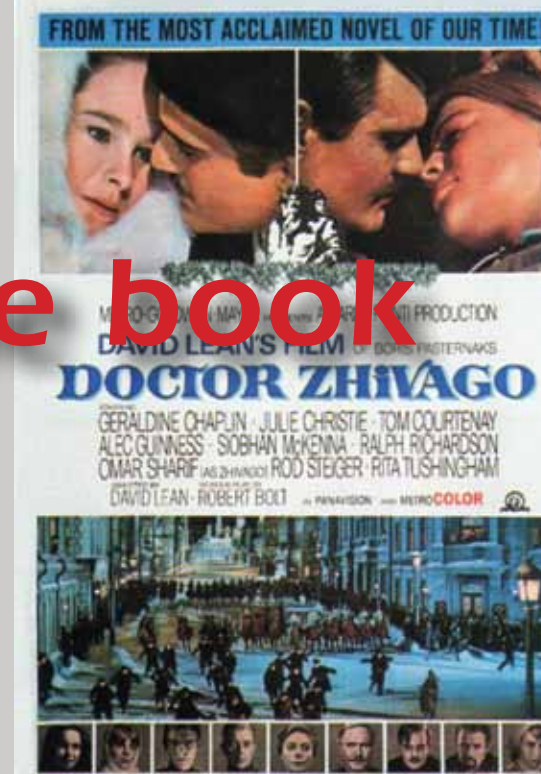
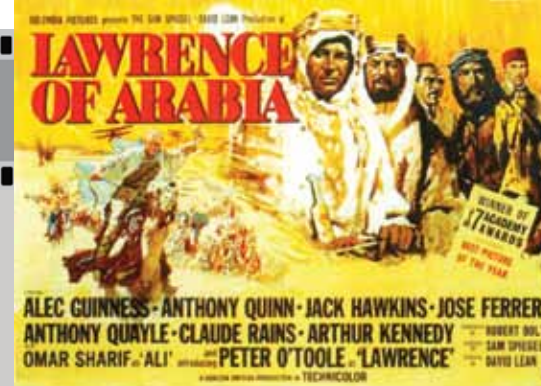
"By the beginning of 1960s there were about 2.700 motion picture theatres in the USSR. About 1.500 of them were wide-screen projection theatres. About 1.500 of them were stereophonic sound theatres. About 1.500 of them were stereophonic sound and wide-screen projection theatres." (Learn More About Soviet Cinema. 1970).

both on 35mm and 16mm film" (Lloyd Thompson Progress Committee Report for 1959. SMPTE Journal, May 1960). In the 1970s "rural cinemas have not been brought up to the technical level of urban cinemas. Thus, widescreen films can be shown in 10 percent of the urban cinemas and 80 percent of the rural cinemas" (Mikhail Alexandrov, 13 Millimeter Film, August 1976) and this situation has not changed. Cinema attendance has been 15% more than in 1960. Each 70mm film has been shown in 10 theatres, while each 35mm film in 100 theatres." (Learn More About Soviet Cinema. 1970).

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Sir David Lean, Master of Epics

According to the book about David's life: 'An Intimate Portrait' written by his last wife Sandra Lean in 2001, Gregory Peck stated at the presentation of Lean's Lifetime Achievement Award in Hollywood on the evening of 8 March, 1990: "He is a dreamer and adventurer who says to us: see the world through my eyes." In an interview on CBC in March 1965 David Lean himself, spoke the following historic words: "I consider myself an entertainer. I like a good strong story, I like a beginning, a middle and an end... I like to be excited, when I go to the movies!" Nothing would better prove the way he was thinking and working than these phrases. He does not imitate the thoughts and stories of others but he makes them himself. He was the ultimate filmmaker, who made a total of sixteen films, many became famous and they have garnered fifty-six Academy Award nominations, resulting in a record number of twenty-seven Oscars. *The Bridge on the River Kwai* (1957) shot in the jungle of Ceylon, won seven Oscars, for Best Director David Lean, Best Picture for producer Sam Spiegel, Best Actor for Alec Guinness and for Best Screenplay, Best Cinematography, Best Musical Score and for Best Film Editing. It took months to build the wooden railway bridge with the aid of 45 elephants and many workers at a cost of 250 000 American dollars and seconds to destroy. Filming started in October 1956 and lasted eight months. It was Lean's first epic film in CinemaScope. The premiere was in December 1957 and the first release grossed thirty million dollars. The film was re-released in 1964.



Those were the days my friends...

As a boy of 14, my mother took me to a beautiful cinema in my hometown in 1954, for a screening of the German operetta **Das Land des Lächelns** with opera singers Martha Eggerth and Jan Kiepura. That day she laid the basis of my love for film and musicals. But it was also the beginning of a 'dangerous' kind of cinema addiction, that year I went 38 times to local cinemas, including 15 CinemaScope and 2 VistaVision films. In 1956, even 52 times with the number of CinemaScope films rising to 26 and 5 VistaVision films. But the next year 1957, something remarkable happened: in June I visited Scheveningen, the seaside resort of The Hague and discovered that the Philips Company had a two weeks public demonstration, in a special equipped cinema, of their new DP 70 projector! They screened one reel of **Oklahoma!** and **The Miracle of Todd-AO** on a large wall-to-wall, slightly curved screen, in 70mm with 30 fps. I was completely surprised by what I saw there! One month later I saw the complete musical, however only in the 35mm Scope version. And that same year 1957 Michael Todd had rented a cinema in Amsterdam for showing his movie **Around the World in 80 Days** for one year exclusively. It had a wall-to-wall screen, and despite it was a 35mm print, it looked great! Next year was the year of the World Expo 1958 in Brussels, with a lot of unique never before seen film attractions: in one week I saw **Circarama**: 11 x 16mm projectors; the Russian **Kinopanorama** 3 x 35mm film with **Vaste est mon Pays** (Great is my Country); and in a special built Cinerama Theatre: **This Is Cinerama** and **Seven Wonders of the World**. I was completely surprised by all these unique screenings which I had never seen before. Next year I only went 15 times to the cinema because I was in military service. But in 1960, it all started again: in the new Scala Cinerama theatre in Rotterdam I saw **This is Cinerama** and some days later **The Miracle of Todd-AO** in a cinema that had just installed the new DP 70 projectors. In another 70mm cinema in The Hague: **Can-Can**, **Ben-Hur** and for the 3rd time **The Miracle of Todd-AO**. The end of this remarkable cinema year ended around Christmas

in Paris with the 6th Todd-AO film **The Alamo**. In 1961, I visited a lot of 70mm films all over the country: **Can-Can**, **Spartacus**, **Porgy and Bess**, **South Pacific** and the Russian **Story of Flaming Years**. During a trip to London in Astoria: **Exodus** and in Casino Cinerama: **Search for Paradise** and in Rotterdam **Seven Wonders of the World** and **Cinerama Holiday**. Wow, six 70mm films and three Cinerama travelogues in one year. In July 1972, I visited for the last time the Cinerama Theatre in Rotterdam, watching **Seven Wonders of the World**, in October it was closed forever.

Let's make a large jump to the year 2010: I visited **FotoKem** in Los Angeles where Andrew Oran, vice president, showed the restoration of **The Sound of Music**. First some images of a new 70mm print and then a digital 4K version. And I was surprised about the quality of the digital images. In the meantime I have seen a lot of 2K and 4K screenings, in the new EYE 70mm cinema in Amsterdam a 4K screening of **Lawrence of Arabia**, and I must admit, it looked great. Some colors were a little overdone, especially the white of the wrap of Prince Feisal (Alec Guinness). But I am convinced that will improve in the future. On another day I enjoyed a complete different performance: Charlie Chaplin's silent movie from 1928, **The Circus**, accompanied by a grand piano, a beautiful restored cinema organ and three musicians in the large auditorium of EYE in Amsterdam. And nowadays you can visit your local cinema and watch a beautiful ballet directly from Moscow or an Opera from Italy.

It's a pity for our generation that *analog* film and its wonderful side aspects will disappear, but everything in this world changes and it is really amazing that film running through a projector was among us for more than a hundred years! The next generation will not be aware of it, they are used to all forms of digital information. **There is enough to see in this new digital world, let us be happy with that.**

Johan C. M. Wolthuis, Arnhem, January 2014.

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