AMERICAN
Cinematographer
THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY
THEATRICAL • TELEVISION • 16mm COMMERCIAL • AMATEUR

JANUARY 1952
25c
$3.00 YEARLY IN U.S.

Special closeup lighting for Frederic March in "Death of a Salesman," photographed by Frank Planer, A.S.C.

THIS MONTH
- Script Problems In Film Making
- Filming The 'I Love Lucy' TV Show
- Commonsense Lighting For Amateur Movies

JANUARY
1952
for every phase of motion picture work

<table>
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<tr>
<th>FILM</th>
<th>TYPE</th>
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<tr>
<td><strong>NEGATIVE TAKING STOCKS</strong></td>
<td></td>
<td><strong>“Superior” 1</strong> 904 B 35mm A panchromatic film recommended for general exterior and process background work whenever the light is ample. An all purpose film for both exterior and interior production work. It combines fine grain, speed and wide latitude.</td>
</tr>
<tr>
<td><strong>“Superior” 2</strong> 926 B 35mm</td>
<td></td>
<td>A highly sensitive negative for both interior and exterior use under limited illumination. An all purpose negative for interior and exterior use. May be processed as a negative or by reversal.</td>
</tr>
<tr>
<td><strong>“Superior” 3</strong> 927 B 35mm</td>
<td></td>
<td>A fine grain film of wide latitude for interior and exterior work. May be processed as a negative. Produces excellent results when reversal processed.</td>
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<tr>
<td>Panchromatic</td>
<td></td>
<td></td>
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<tr>
<td>Rapid Reversal</td>
<td>930</td>
<td>A medium speed negative designed especially for rapid reversal processing. Widely used in television newsreel and sports photography.</td>
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<tr>
<td><strong>DUPLICATING FILMS</strong></td>
<td></td>
<td><strong>Exceptionally fine grain high resolution film designed specifically for duplicating work. Fully panchromatic.</strong></td>
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<tr>
<td>Fine Grain Duplicating Negative</td>
<td></td>
<td>A fine grain film for duplicate positives which may be exposed at release positive printer light levels and processed in normal release positive developers at normal developing times.</td>
</tr>
<tr>
<td>Fine Grain Master Positive</td>
<td>828</td>
<td>A high speed Variable Area or Variable Density recording film. A fine grain Variable Density sound recording film with an exceptionally high signal to noise ratio and freedom from 96 cycle effects.</td>
</tr>
<tr>
<td>Fine Grain VA Sound Recording</td>
<td>831</td>
<td>A fine grain film for variable area sound recording using white light. Responds well to high gamma development. A medium contrast fine grain sound print stock designed for use with high gamma variable density negatives and for processing under normal release positive conditions.</td>
</tr>
<tr>
<td>Fine Grain Sound Positive</td>
<td>832</td>
<td>A low contrast fine grain sound negative for variable density recording designed for development in picture negative developers. Same emulsion as Type 836 with non-halation base to increase sharpness of sound images.</td>
</tr>
<tr>
<td>Fine Grain Sound Recording (VD)</td>
<td>836</td>
<td>A high speed Variable Area or Variable Density recording film for use in 16mm recorders. The non-halation base enhances image sharpness. A high speed, normal grain film where release print speed is required. Excellent for making superimposed title prints.</td>
</tr>
<tr>
<td>Fine Grain Sound Recording (VD)</td>
<td>837</td>
<td>For general release work and dubbing prints which require the optimum in picture and sound quality. Yields blue-black images.</td>
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<td>Fine Grain Sound Recording (NH)</td>
<td>802</td>
<td>For fine grain news release prints.</td>
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<td><strong>SOUND RECORDING FILMS</strong></td>
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<td><strong>Release Positive High Speed</strong> 803 B 35mm</td>
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<td>Fine Grain Release Positive</td>
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<td>Fine Grain News Positive</td>
<td>829</td>
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<td><strong>SPECIAL PURPOSE FILMS</strong></td>
<td></td>
<td><strong>Title Stock</strong> 805 B 35mm A high speed film for title photography. Clarity of base makes it ideal for superimposed titles. A fine grain film for photographing either negative or positive images from television monitor tubes. The low contrast of this film makes it especially suited for prints which are to be teletext. May be processed in picture negative or release positive baths depending on contrast level desired. An extremely fine grain film of high resolution for background projection purposes. Yields a blue-black image of exceptional gradation and sharpness.</td>
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<tr>
<td>Fine Grain Low Contrast Positive</td>
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<td>Fine Grain Background Projection</td>
<td>827</td>
<td>B 35mm</td>
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SUBSCRIPTION ORDER FORM

AMERICAN CINEMATOGRAPHER
1782 No. Orange Dr.
Hollywood 28, Calif.

Please send me American Cinematographer
For 1 YEAR (U.S., Canada, Pan-Am. Union) $3.00 □ FOREIGN $4

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ADDRESS ..................................................................

CITY......................................................... ZONE.... STATE.......................................

Gene and Charlie Jones, NBC-TV's famous twin team, examine one of their Bell & Howell "70" cameras in a Korean forward area.

NBC's newsreel men prove B&H cameras under fire

In the thick of the Korean action from the very beginning, the Jones Brothers have sent NBC-TV some of the finest War pictures ever filmed, including many exclusives. These movies were filmed under exceedingly tough and dangerous conditions. In fact, when Gene Jones was wounded in the chest at the Inchon invasion, he had to inch his way back to the beachhead through hundreds of yards of severe fire . . . protecting the precious film in his B&H "70" for NBC-TV News Caravan viewers.

Here's what the Jones Twins say about their Bell & Howell Cameras in a letter to Robert McCormick of NBC: "...We try to ship or shoot 500 feet per day. The Bell & Howell is a rugged little camera. Both of ours have been damaged in combat . . . but we've managed to have them repaired by Signal Corps people."

Features of the New B&H 70-DL

3-Lens Turret Head for instant lens change; Critical Focuser permits precise focusing through the lens; Viewfinder Turret rotates positive viewfinder objectives to match lenses on lens turret; Powerful Spring Motor operates 22 feet of film on one winding . . . maintains speed accurately throughout film run; Hand Crank for short double exposures, other trick effects and unlimited film run; 7 Film Speeds include 8, 12, 16 (normal), 24 (sound), 32, 48 and 64 (true slow motion) frames per second; Film Plane Mark for accurate focusing measurement; Parallax Adjustment corrects from infinity to 3 feet; Eyepiece focuses for individual sight variations . . . increases illumination to the eye up to 600%. Complete with 1" f/1.9 lens only, $365.50.

Price subject to change without notice

The Bell & Howell "70" camera is indeed a "rugged" camera. But that isn't the only reason why it is the favorite of professionals and ambitious amateurs. This camera is designed to make the highest quality movies, yet can be carried anywhere . . . either hand held or set up in a matter of seconds to shoot under the most adverse conditions.

Guaranteed for life. During life of the product, any defect in workmanship or material will be remedied free (except transportation).

SEE IT AT YOUR CAMERA DEALER TODAY!

Bell & Howell

You buy for life when you buy Bell & Howell

Gene and Charlie Jones, NBC-TV's famous twin team, examine one of their Bell & Howell "70" cameras in a Korean forward area.
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ON THE COVER

GETTING the light "just right" for a closeup of Frederic March, star of Stanley Kramer's Death Of A Salesman. Playing light from a "Houdini" on March's face is director of photography Frank Planer, A.S.C. (center) while director Laslo Benedek studies the effect. Use of the "Houdini"—a small, portable photo light—is one of Planer's lighting tricks employed to point up character or mood in closeups of players.

—Photo by Lippman for Columbia Pictures Corp.
The 16mm Professional has the same proven Mitchell 35mm features—to bring 35mm quality to 16mm screens. Equipped with 16mm Mitchell blimp, this camera is a favorite of leading commercial producers for sound photography.

The Mitchell 35mm Camera—standard equipment of major studios—is internationally known for dependability and performance. For superb photography, Mitchell 35’s are available in BNC (blimp unnecessary), NC and Hi-Speed models to meet every requirement.

For over 25 years, Mitchell Cameras have set professional photographic standards for the Motion Picture Industry. These flawlessly designed, ruggedly constructed cameras have proven themselves in smooth, positive operation under the most exacting conditions. Today, as yesterday, the World’s greatest films depend upon Mitchell—professional equipment for truly professional results.

World's Finest
16mm and 35mm Cameras!

85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell.
Hollywood Bulletin Board

ATrue One-man Lab
REVERSALS—POSITIVES—NEGATIVES
Developed and Dried Automatically

Bridgematic TV Special

Ready to plug in..........................$2995
Here's another BRIDGAMATIC, designed for TV stations, but ideal for all-round use. Measures 8' long x 3' wide x 4' high, contains 9 stainless steel tanks and many other features. Speed—720' per hour rapid reversal (DuPont) or positive, 420' per hour soundtrack or 300' per hour negative. Develops and dries ready for printing or projection.


See our Classified Ads in this issue.

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Cable: "SOSOUND"

Hot Splicers!

Griswold Hot Splicers
$65.00
Your Griswold Splicer, models R2 and R3 converted to Hot Splicer..........................$40.00

Camera Equipment Company
1600 Broadway
N. Y. 19, N. Y.

This Fight Is Yours

Join the March of Dimes

Voting Timetable For The Academy of Motion Picture Arts & Sciences 24th annual Awards for 1951, has been announced, with the following dates set for important preliminaries to the presentation ceremonies to be held at the RKO Pantages theatre in Hollywood Thursday, March 20.

Nominations ballots will be mailed Thursday, January 17. Nominations polls close January 26. The awards nominations will be publicly announced February 12. Screening of nominated pictures will be held from February 17 through March 9 at the Academy Award Theatre. Final Awards ballots will be mailed February 26, with the polls closing on Tuesday, March 11.

Incidentally, the Academy Awards will not be televised this year, according to Academy president, Charles Brackett.

O. H. Borradaile, A.S.C., was chosen by the Canadian government's National Film Board of Canada to photograph in color the U.S.-Canadian visit of Princess Elizabeth and the Duke of Edinburgh.

Borradaile used the new Eastman 35mm color negative—first time it was used in Canada. Film Board reportedly is so jubilant with results that, what was originally intended to be a 2-reel short subject is to be expanded into a feature-length documentary for worldwide distribution.

Maria Clara Awards, the Philippino equivalent of Hollywood's Academy Awards, were handed out recently in Manila to stars, writers, directors and cameramen in the Philippino's bustling motion picture industry. The awards presentation ceremonies were typically Hollywood in style, with big names on hand and searchlights piercing the skies, etc. Giving incentive to the event, which henceforth will be an annual affair, was the Manila Times.

William J. German has been appointed distributor for Eastman professional motion picture films effective January 1, 1952. German's new company, W. J. German, Inc., will succeed to the business which was previously operated by J. E. Brulatour, Inc. The new company will continue to operate with substantially the same personnel in Fort Lee, N. J., Hollywood, and Chicago.

German was closely associated with the late Jules Brulatour as vice-president and general manager of the Brulatour company. He is an associate member of the American Society of Cinematographers.

The Maria Clara Award is a 12-inch bronze statuette representative of the conventional ideal of Philippino womanhood.

Winner of the first Maria Clara award for cinematography was A.S.C. member Higino J. Fallorina, for his filming of Ang mga Baguio Cadets.
The demand for fast, dependable, quality motion picture film processing is rapidly increasing in every community throughout the country, presenting an excellent opportunity for wide-awake film producers and local laboratories. The Houston-Fearless Model 22 Developer shown above makes it possible to provide this profitable service in your area with only a moderate investment.

This portable machine develops 16mm black and white, negative, positive or reversal films. It is self-contained, entirely automatic and easy to operate. Complete refrigeration, re-circulating systems, air compressor and positive temperature controls. Operates in daylight, handling the entire job from camera to screen.

Model 22 is the same high Houston-Fearless quality that has been standard of the motion picture industry in Hollywood and throughout the world for 20 years. Other 16mm and 35mm Houston-Fearless black and white and color equipment to serve your particular requirements.

Write for information on specially-built equipment for your specific needs.

The Houston Fearless Corporation

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"WORLD'S LARGEST MANUFACTURER OF MOTION PICTURE PROCESSING EQUIPMENT"
KEEPI NG UP WITH

AN ENTIRELY new synthetic base for photographic film has been developed by Du Pont research, it was announced today by the Du Pont Company. Preliminary tests show that it is several times tougher and has much greater dimensional stability than any of the present types of film base. It is classed as a safety base, and is less flammable than present safety bases.

The new material, technically known as a polyester, is chemically related to "Dacron" polyester fiber, the newest of the company's synthetic textile fibers. Both are condensation polymers made from ethylene glycol and terephthalic acid.

Du Pont's Photo Products Department is currently producing polyester base in laboratory scale equipment and will shortly start up a new pilot plant at its Parlin, N.J., laboratory.

Polyester base is exceptionally tough, a characteristic that is particularly advantageous for motion picture use. It has twice the tear resistance of the standard acetate or nitrate base film, and can be run through a projector from three to four times as long before perforations show appreciable wear. Because of its toughness and greater stiffness, it is believed that polyester film may make it possible to reduce the thickness of motion picture film by at least 20 per cent, with a resulting greater footage per reel, and accompanying savings in processing and handling.

The dimensional stability of the new base offers important advantages, particularly in the motion picture industry and graphic arts, where close tolerances are essential. Polyester base keeps its shape to a remarkable extent even under the most extreme conditions, and such microscopic changes as do occur are much smaller than in existing films. Another important characteristic of the new base, its lack of brittleness at low temperatures, combined with its dimensional stability, makes it especially well suited for aerial mapping films which are essential. Polyester base keeps its dimensional stability and can be run through a projector from three to four times as long before perforations show appreciable wear. Because of its toughness and greater stiffness, it is believed that polyester film may make it possible to reduce the thickness of motion picture film by at least 20 per cent, with a resulting greater footage per reel, and accompanying savings in processing and handling.

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Five years of research and an investment of more than one and a quarter million dollars have gone already into the development of this new film base, the company said. It added that the decision as to large-scale production would await the results of the evaluation tests now being conducted in cooperation with the Motion Picture Research Council and others having special interest in the unique properties of the new material. If it meets all tests satisfactorily, more than two years will be needed to design and complete large-scale manufacturing facilities, the company emphasized.

A UNIQUE SYSTEM of universal ratings and allied electronic testing equipment with which the quality of 35mm motion picture film can be measured in mathematical terms, has been developed by Otto H. Schade, of the RCA Tube Department.

The universal ratings made available by Schade's system can be applied to measure with scientific objectivity the picture reproducing quality of all picture-producing instruments including camera and projection lenses, positive and negative motion picture film, and TV camera tubes and kinescopes. Utilization of the system and its allied test equipment now enables producers of motion pictures to select film and lenses on the basis of the scientific ratings scored for each component.

THE NATIONAL BUREAU OF STANDARDS is the only scientific institution in the world which has complete facilities entirely within its own organization for making an optical instrument, beginning with the raw materials and in turn producing the glass, the optical design, the lenses and prisms, the mechanical parts, and finally the finished product. Since its founding in 1901, the Bureau has conducted a broad program of optical research and development which has led to the solution of many problems of interest to both Government and private industry.

This work has included the development of technological processes for the production of optical glass, the study of properties of optical materials, the maintenance of optical standards, the design of lenses and optical systems, the production of prototype optical instruments, the determination of performance characteristics, the devising of methods for testing calibration, the preparation of specifications, and a complete consultant service.

A WORKING LIBRARY on accomplishments and techniques in all branches of photography may be consulted at George Eastman House, the international photographic center in Rochester, New York. More than 4,000 items have been added to the historical photographic collections since the institute was opened in 1949.

Famous Arriflex Features:

- Reflex focusing through taking lens, even when camera is running.
- Bright uninveted finder image magnified 6½ times.
- "Follow-focus" without assistant.
- No parallax or other finder problems.
- Full frame focusing.
- 3-lens turret.
- Quick change geared film magazines (200 feet and 400 feet).
- Variable speed motor built into handle.
- Tachometer registering from 0 to 50 frames per second.
- Compact, lightweight.
- Equally adaptable for tripod or handheld filming.
- Easily detachable matte box holder.

Available through dealers, or directly from

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Sole U. S. Agents
Photo Supply Corp.
235 FOURTH AVE., NEW YORK 3, N. Y.

January, 1952

American Cinematographer
The "National" carbon arc offers advantages — in making movies in the studio . . . in projecting movies in theatres — that no other light source can match:

- SMALL SOURCE SIZE
- HIGH BRIGHTNESS
- GREAT POWER FROM ONE UNIT
- WHITE LIGHT
- MINIMUM HEAT PER FOOT CANDLE

This "Big 5" offered by the "National" carbon arc means movies of highest technical lighting quality. Shadows are sharp and dramatic. Depth of focus is excellent. Heat on the actors is at a minimum. And, when you use the "National" carbon arc in your projection booth, the picture is at its best. You gain in quality all along the line.

YOU CAN'T SKIMP ON STUDIO LIGHTING WITHOUT RISKING BOX OFFICE!
Florman & Babb announce THE GRAND OPENING of their NEW SHOWROOMS at 70 WEST 45th ST., N.Y.C.

Featuring the F-B LINE of NEW & EXCLUSIVE ITEMS

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• PRINTERS, DEVELOPING MACHINES, LAB EQUIPMENT

• DE VRY, HOLMES, SIMPLEX PROJECTORS

• FILM, TAPE, LAMPS, BATTERIES, MOTORS

and many other Items—Information on request

PRICE $265.00

WHAT'S NEW in equipment, accessories, service

NEW 35MM LENSES — Sterling-Howard Corp., 561 E. Tremont Ave., New York 57, N. Y., has been appointed exclusive U. S. distributor of the new 1/2 series Gauss-Tachar coated lenses for 35mm motion picture cameras. Lenses are available in Eyemo, Mitchell and other familiar focusing mounts in the following focal lengths: 25mm, 32mm, 40mm, 50mm, 75mm, and 100mm. Write Sterling-Howard at above address for prices and additional information.

FLORMAN & BABB MOVE — Celebrating their first anniversary in business by moving to new and larger quarters, Arthur Florman and John Babb, of Florman & Babb, dealers in motion picture and TV equipment, proudly opened the doors of their new offices and showrooms at 70 West 45th St., New York 19, N. Y. on December 1st. The new quarters afford greatly increased facilities for stocking and displaying 35mm and 16mm motion picture cameras, lighting and editing equipment, as well as the extensive line of CTM motion picture equipment which the company imports from France.

MAGNETIC FILM SPlicer — Kinovox, Inc., 116 S. Hollywood Way, Burbank, Calif., announces a new splicer for the editing and butt splicing of 17½ and 35mm magnetic recording film. The Kinevox splicer employs a perforated adhesive tape for the joining medium. An accurate angle cut is made between the sprocket holes of the recording film. Precision-machined register pins accurately position the film and the perforated joining tape. Non-magnetic stainless steel construction safeguards against imparting extraneous magnetic

SAFETY JUNCTION BOX — O. A. Windsor Co., P. O. Box 505, Santa Monica Blvd., announces a four-outlet safety

SALES—RENTALS—EXCHANGE NEW OR USED

ARRIFLEX CAMERAS & ACCESS.—35mm & 16mm

MITCHELL, BELL & HOWELL, EYE MO, DEBRIE, CINEPHON, DE VRY, AKELEY—CAMERAS

MAURER, AURICON, CINE SPECIAL, FILMO

ZOOMAR, BALTAR, COOKE, SONNAR, EKTAR, KINAR, KINOPTIK, ASTRO LENSES

COLORTRAN, BARDWELL—MALLISTER, M-R LIGHTS

MOVIOLES, SYNCHRONIZORS, SPlicERS, RE-WINDERS

B H, AMPO, EASTMAN, VICTOR PROJECTORS (16mm)

DE VRY, HOLMES, SIMPLEX PROJECTORS (35mm)

MAGNETIC TAPE AND FILM RECORDERS

TRIPODS—DOLLYS—BLIMPBS—BOOMS

FILM, TAPE, LAMPS, BATTERIES, MOTORS

PRINTERS, DEVELOPING MACHINES, LAB EQUIPMENT

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FLORMAN & BABB

70 West 45th St. New York 19, N. Y.
MU. 2-2928

January, 1952

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noise to the recording film during splicing.

Kinevox engineers point to the superiority of the Kinevox-type butt-splice versus the lap-splice method in that the butt splice does not cause film to raise in passing the recorder and playback heads, thereby insuring flawless recording results.

FILM PRINTER FADER — PAR Products Corp., 926 N. Citrus Ave., Hollywood 33, Calif., announces a fade attachment for Bell & Howell 16mm and 35mm film printers which makes possible automatic fades and dissolves in color printing as well as black-and-white. Easily installed, fader is operated by a film notch actuating an interrupter. It does not interfere in any way with the normal printer light change operation. Any three of the following fade lengths can be provided: 20, 30, 40, 50, 60, 75, and 90 frames.

CAMERA MART, INC. MOVES — After 14 years at the same old stand, Camera Mart, Inc., moved early in December from 70 West 45th St., to 1845 Broadway, New York City. New quarters provide larger offices and attractive showrooms for display of extensive lines of motion picture and television equipment handled by company. New location now affords modern repair shop for camera and sound equipment, with optical testing and calibrating equipment. Editing and cutting rooms are soon to be installed for rental purposes to independent film producers. Featured will be latest type Moviolas and synchronizing equipment.

BOOKS ON MOVIE MAKING — Eastman Kodak Co., Rochester, N. Y., has issued a new booklet listing a selected group of books on general motion picture work.

MAKES 3-DIMENSION CINE FILMS — The Nord Company, 264 First Ave., North, Minneapolis 1, Minnesota, announce the Nord 3rd Dimension Converter for use on 16mm cameras for making stereo movies.

Clete Roberts and his cameraman Russell Day use the AURICON-PRO for their world-wide coverage of the news

Clete Roberts' "WORLD REPORT" produced by U.S. Television News Reels for INS-Telenews is now being televised over 23 CBS stations in the East, plus complete TV coverage in the Western States.

Clete Roberts says... "OUT OF 50,000 FEET OF 16 MM FILM SHOT WITH THE AURICON-PRO SINGLE-SYSTEM SOUND CAMERA, NOT A SINGLE FOOT OF FILM WAS LOST. THIS INCLUDES 130 ISSUES OF "WORLD REPORT" FILMED FOR TELEVISION IN EAST ASIA, THE SOUTH PACIFIC, AND ALASKA, WITH TEMPERATURES RANGING FROM SUB-ZERO TO THE HEAT OF THE TROPICS AND UNDER THE ROUGHEST OF TRAVEL CONDITIONS. THIS FINE PERFORMANCE PROVES ONCE AGAIN THAT THE AURICON-PRO CAN 'TAKE IT'!"

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For award-winning cinematography...

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B&L 8mm and 16mm Animar Lenses . . . the series you can recommend to your friends with confidence for professional quality in their home movies. At all authorized Animar dealers.

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Whether your goal is the personal prestige of a trophy award . . . or the monetary reward of client satisfaction . . . achievement records of the world's leading cinematographers show that you are closer to reaching your goal when you use Baltar Lenses. This complete series, in eight focal lengths, gives you unsurpassed correction and definition for color and black-and-white 35mm films. All lenses are Balcoat anti-reflection surfaced.

Order from your professional camera manufacturer.

BAUSCH & LOMB
OPTICAL COMPANY
ROCHESTER 2, N.Y.
GREAT when the going is ROUGH!

ELK-COMBS AFRICAN EXPEDITION, Inc.
CHOoses THE MAURER 16MM.

Knowing that his equipment would take a terrific beating from heat, humidity, and the roughest kind of terrain, Lt. Kenneth M. Elk of the U. S. Army Signal Corps chose the Maurer 16mm. as the camera best qualified to document the Elk-Combs African Expedition. The Maurer 16mm. offers you the utmost in accuracy — in quality — in simplicity of operation. Quite naturally, it is first choice in the professional field.

maurer
means finer motion pictures!
Westward The Women

MGM's epic "western" enhanced by epic photography of William Mellor, A.S.C.

By ARTHUR ROWAN

"Westward The Women" is one of the few pictures to come out of Hollywood in which the photography vies with the story and cast for top honors. One cannot view this MGM production without feeling the grandeur of William Mellor's brittle-sharp black-and-white photography, which effectively sets the mood for the unique saga of a horde of pioneer women braving 2,000 miles of prairie and desert wastelands in quest of husbands in far off California.

The accent on photography was director William Wellman's idea. No ordinary studio-lot settings would do for his epic of pioneer gals in calico struggling across the North American continent hell-bent for matrimony. Wellman wanted new and startling locales having unusual photographic possibilities against which to stage the action of his story, and toward this...
goal he sent cinematographer Mellor as his personal emissary to scout locations on the Mojave desert in California and in and around Kanab, Utah—famed locale of countless western film dramas. Here was a picture in which the studio art director was to play a minor role. The settings for the picture would be already built by nature, and much would depend upon the inspiration the cameraman found in the natural settings chosen for staging the action.

No wonder, then, that Mellor's camerawork achieved such perfection. For the first time in all Hollywood history, perhaps, a cameraman was entrusted with the responsibility of selecting the major location sites for the picture he was about to film. Normally, a cameraman follows the script, and shoots in locations and on sets that have been prepared, for the most part, without benefit of the photographer's counsel.

Before Mellor set out to scout locations for director Wellman, the studio already had made a tentative survey of several location sites. These had been photographed in 16mm and the film screened at the studio. Mellor, in a jeep, retraced the studio scout's trail into Paria and Johnson canyons, near Kanab, with only mild enthusiasm. Just as he was turning back toward Kanab, the driver of the jeep casually mentioned a site in the vicinity called Surprise Valley which, he said, to his knowledge had never before been used by a motion picture company. After about an hour's drive, they reached the canyon and what Mellor saw sent him scurrying back to Kanab to put in a hurry-up phone call to Wellman back in Hollywood. At Mellor's insistence, a dubious Wellman flew to Kanab and Mellor drove him out to Surprise Valley. The director was overwhelmed. Not only did he approve the site but began a mental rewrite of the story in order to take further advantage of the unusual pictorial elements he found so abundant there.

"The Valley had every pictorial element we could ask for," Mellor said, "from stark desert wastes to deep walled canyons, plus a stream that grew from a small rivulet far up the canyon to a good size river with many pictorial possibilities. Here in this valley we could shoot the greater part of the exteriors written into the script; do most of the picture here, and save the studio considerable in production costs."

In the beginning the story idea for *Westward The Women* was Frank Capra's. "Look," he said, "It's 1851. Put 200 women in covered wagons. Take 'em across hell to California. Stampedes, accidents, Indians, sudden death."

From this capsule scenario, screenwriter Charles Schnee wrote the script. Briefly, the story concerns a pioneer rancher in California with a yen to provide wives for his ranch hands. Taking along Robert Taylor as guide, the rancher, John McIntyre, goes to Chicago. There he signs up 200 women to make the trip to his California ranch. Taylor, meanwhile, engages a dozen men to go along and assist him as drivers, cattle rangers and Indian fighters in the westward trek. "But stay away from the women!" he warns them.

(Continued on Page 42)
Documentary On Coal

The color camera goes underground to record bituminous coal mining operations and follows through for the story of 'Powering America's Progress.'

By CLIFFORD H. ADAMS
Photographs By The Author

Filming a coal mine in color! There's an assignment to challenge any cinematographer! But oddly enough, there is color even in the depths of a coal mine. And the Bituminous Coal Institute of Washington, D.C., has an excellent 16mm color-and-sound production to back up the statement.

When the Institute elected to make Powering America's Progress, a motion picture depicting the myriad facets of one of America's greatest industries, the decision was to film it in color; and the film producer who received the assignment was March of Time. Cameraman Johnny Geisel did the photography; yet a measure of photographic credit is also due William Vandivert who directed the picture. A noted industrial still photographer, Vandivert earlier had demonstrated his photographic skill by turning out a superb set of 4 or 5 color transparencies on underground and surface coal mining operations for the Institute. So it was that a rare combination of talent was united to document the coal mining operations on 16mm Kodachrome.

The assignment not only called for a superb continuity of pictures on the mechanized might and power of the coal industry itself but for a vivid, dramatic portrayal of coal's impact on the might of America. This coal documentary was to be a story of America at work. From the engineer on the coal train, to the miner operating a shuttle car; from the steel worker directing the tapping of the open hearth, to the busy production line foreman; from the satisfied customer of coal in the friendly warmth of his rumpus room, to the research scientist solving the problems of liquefying coal, the movie was to depict the dependence of America's industrial might upon coal, and the benefits accruing to the people of America from the numerous products made possible by an abundance of coal.

The filming task presented a challenge in techniques and an opportunity to blaze a pioneering trail in the handling of a commercial 16mm color motion picture. A modern American underground bituminous coal mine might be likened to a complex city with avenues, streets, building lots and homes, with an electric-powered transportation system not at all dissimilar to a trolley-car network familiar in many American cities and towns. But there is one vast difference. In the underground coal mine giant machines move along the "avenues and streets" of the passageways and operate in the "building lots" or "rooms." With push-button ease these mechanical monsters, governed by today's highly skilled miners, go about
their daily business of sending underground thousands of tons of coal each eight-hour shift. And, unlike the bright lights of a city, almost the only illumination in this underground world is supplied by the battery cap-lamps of the miners.

Here then was the first challenge: depict the drama and color and rhythm of the cycle of underground coal mining—timbering, cutting, drilling, blasting, loading, and conveying—plus the ever-constant safety measures enforced continuously throughout the mining operations.

The problem: how to light it? Geisel had never been underground, but to Vandivert a coal mine was almost a second home. After long conferences in the MOT's New York offices, relative to the merits and capabilities of this and that type of lighting, it was decided to do the job with four 2,000-watt "deuces" and eight 1,000-watt "inkies." Not only would sufficient light be assured through this arrangement but mobility—a major factor—was guaranteed.

A question concerning the type of photographic equipment to be used was quickly resolved. The camera selected was a 16mm Maurer, equipped with matched Bausch & Lomb Baktar lenses in varying focal lengths. The film selected for the entire job was Commercial Kodachrome (Tungsten) Akeley gyro-tripods, dollies, triangles, etc., were matters of course. In addition to Geisel and Vandivert, the crew consisted of Bill Shaw, electrician; Reginald Wells, assistant director; James Maloney, grip; Ed Fenton, sound; Francis Rutledge, assistant electrician; Johnny Garrambone, property; and Al Kern, assistant cameraman.

From the first day's shooting until the last foot of film wound through the camera, technical difficulties arose with monotonous regularity. They had to be met and were solved on the spot! Two considerations always had to be kept in mind: there were: absolute technical accuracy in depicting complex and varied mechanical operations below and above ground, and dramatic action and color geared to hold the undivided attention of audiences ranging in ages from 10 to 90.

Perhaps on the theory that it was best to get the toughest part of the job out of the way first, the photography began underground. "On location" was Fairmont, West Virginia, and the mine selected was some 25 miles from that city. Miners go to work early, and a 6 a.m. call was standard procedure for the crew.

Here, lighting was not the only major problem encountered. The human element also entered the picture. There are no paid actors in this film. All were real miners, real steelworkers, real railroad men.

In the few days in the Fairmont region, the entire underground mining cycle sequence was completed with minor exceptions, plus considerable footage taken outdoors and in above-ground mining installations. Perhaps Director Bill Vandivert summed up the mining phase of the production best when he said:

"In producing 'Powering America's Progress' the problems were more numerous than one could find in almost any other commercial documentary done in the past few years. No high quality color picture has ever been done on coal because of the difficulties involved. And no one had ever made really good color film on the underground coal mining mines actually at work. There were the factors of restrictions of space, safety, dirt and coal dust impairing equipment, maintaining a proper color balance in the film because of great color contrasts and fluctuating voltage, creating a minimum of interference with normal operations in the mines, and last but not least the necessity to please an association of mine operators, plus the U. S. Government's Bureau of Mines, with whose collaboration the film was produced."

Still operating on the principle of toughest things first, the crew moved on to the Pittsburgh area for some vivid and unusual sequences on the steel industry. Steel making is dependent upon coal, ton for ton, and steel as an industry has been capably photographed many times, but rarely with the dramatic and colorful emphasis supplied by the camera of Johnny Geisel. From the stoking of the great by-product coke ovens with the basic ingredient—bituminous coal—to the gleaming sheets of steel rolling off the finishing mill, the camera recorded every dramatic episode in the cycle. One of the most challenging photographic problems was presented when it came time to shoot the tapping of the giant open hearth furnace with its blinding-white stream of molten metal pouring into a waiting ladle.

Here was a neat problem in color balance. The radiance and reflectivity of the molten, white-hot metal would be great, but still not sufficient to supply the necessary detail in the over-all furnace, a huge structure. With the camera and crew 30 feet away on a metal platform at a slight right angle to the furnace door, and at about the same height, three deuces were lighted and placed camera left, and directly opposite the furnace, to throw some light into the shadow area.

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Ordinarily, an open-hearth furnace (Continued on Page 45)
ASSIGNED to shoot "An American In Paris" only a few days before the starting date, Director of Photography Alfred Gilks, A.S.C., (right) was greatly aided by unit Art Director Preston Ames, shown here discussing a scene "visualization" he prepared for the production.

Some highlights in the filming of . . .

'An American In Paris'

By ALFRED GILKS, A.S.C.

The announced goal of the persons who pooled their talents for MGM's An American In Paris was to do a picture which would reflect the real heart and emotional appeal, as well as the exciting tempo, of the city regarded alike by travelers, painters and story tellers as the most romantic in the world.

The top command — Arthur Freed, Vincente Minnelli, and Gene Kelly — worked intensely for many months on the plans for the production and came up with an abundance of brilliant ideas for sets, lighting effects and camera movements. To carry out these ideas and deliver them to the screen in a practical manner, with all the flavor and atmosphere intact, was the challenge handed unit art director Preston Ames and myself.

Fortunately Ames had been in on all the pre-production work and had transposed many of the ideas into sketches. I was not assigned to the picture until a few days before shooting was to start. It was Ames' fine cooperation that speeded my briefing and made it possible for me to "go to the post" with confidence that I had a complete understanding of the spirit of the picture.

Because the picture was to be produced entirely in Hollywood, except for a sequence of atmosphere shots, it became a formidable and challenging assignment in art direction and photography. Without the pictorial impact of authentic Parisian scenes and locales, the picture—as conceived — would lose much of its punch. And so Paris was re-created in the MGM studio.

There are many advantages in building sets for a picture like this instead of shooting in the original locales — advantages especially for the cameraman. When the sets are designed and built at the studio, the full requirements of the camera can be considered in the planning and the sets constructed to permit widest utilization of the camera. Also, colors more suitable to Technicolor photography can be used, and the lighting, of course, is not the problem it would be on location.

Previously, in 1932, I had visited Paris and spent much time with Buckley MacGurrin, artist, lifelong friend and former shipmate. I had just purchased a Leica with a very fast lens, so I could shoot candid pictures, inside and out, day and night — from Can Can girls at the Bal Tabarin to big spectacle scenes with Mistinguette at the Casino de Paris. In those days it was a decided sensation to see someone snapping away with a camera at night with no flash gun or lights, and the French no doubt took me for a harmless idiot; but I got some fine pictures.

The long arm of coincidence has been fatigued by overuse in films as well as in novels, but I cannot help thinking how really extraordinary was this experience of mine in Paris, from the coincidental point of view, because my companion was, like Gene Kelly in the film made so many years later, a young American painter, veteran of the preceding war, who lived on the fringes of the Butte Montmartre in a studio as typical as anyone could imagine. Together we wandered in little Montmartre streets; frequented the artists' cafes in Montmartre and in Montparnasse; we saw the quays in daylight and at night; we drank white wine and ate oysters on the terrace. And all the time my Leica was working — from the Place du Tertre to Notre Dame.

When I started on the picture at the studio, I dug up these old Leica photos. They revived countless memories which I sincerely believe were a great help to me in getting the feel of the atmosphere I was to strive for in filming An American in Paris.

Perhaps one of the most challenging...
A HIGHLIGHT and a lighting challenge was the illuminated staircase set with its live candelabra adorned by beautiful girls, and steps which lit up as dancer ascended.

ABOVE street, wires supported muslins which were used to regulate sunlight. Here Director Minnelli (on boom) and Gene Kelly discuss a high angle shot.

NARROW, three-wall set, 35 feet high, with Technicolor camera and boom almost filling the open side, posed a considerable lighting problem.

sets was the little cafe and the streets that worked with it, where much of the action took place. This was an exterior on Lot 2. Here a building was cleared and the cafe interior built in conjunction with a real street — in fact, three streets. Directly across from the wide entrance of the cafe a street extended straight away for a block to another cross-street, parallel to our foreground street, which extended a full block from the cafe on one side and half a block on the other.

Such an extensive layout was a far cry from a single small street or a backing tied in with a set on a stage. We had many sequences, both day and night, to shoot from the inside of the cafe, with the streets showing in the background; also, scenes starting in the cafe on closeups and then, without a cut, pulling back with the camera to a full shot of the exterior of the cafe, then panning or rolling with the action on down the street into a long shot.

Both the day and night scenes were shot in the daytime. In addition, we made other long Newcombe establishing shots and traveling scenes that were not tied in with the interior of the cafe. For these, of course, sunlight was most desirable. In lighting and balancing interiors and exteriors that work together, it is necessary to establish a marked difference between outside and inside areas of the set; also, one must stay within the exposure limits required to print properly. The new, fast Technicolor film was not available when we started the picture. Had it been, a great saving could have been effected — and I would have had many less gray hairs.

The authenticity and the visual im-

(Continued on Page 36)
W. J. GERMAN, INC., is proud to announce that it has been appointed distributor of all Eastman Professional Motion Picture Films effective January 1, 1952.

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Script Problems In Film Making

Some of the obstacles commonly encountered by major producers before the cameras start rolling on a feature film production.

By RICHARD GOLDSTONE

The gods have nodded from Olympus. The sun is shining in the heavens. There is a hush of expectancy upon the land.

From the mimeographing department, enter the messengers, bearing scripts—stacks of them—in immaculate, crisply-typed pages—new yellow covers bearing the magic word FINAL stamped in bold red letters in the lower left-hand corner.

You have been told by the front office that the starting date for your picture is 8 weeks from now—10 weeks if the picture your leading lady is currently working in needs any retakes. Your wife suggests that maybe this is the time to go to Palm Springs or Mexico City, or just lie around for a couple of weeks soaking up sun in the patio. Patiently you explain to her that there's still a lot of work to do on the script and she gazes back at you with understandable perplexity and says, "But it says 'final' on the cover."

Final? Yes—in the sense that the vice-president in charge of production has judged its merits and agreed that it's a legitimate risk of a million dollars of the company's money. It's final as a general order committing an army corps to battle is final. The battle has yet to be fought.

So, you make your opening gambit—a preliminary patrol into the no-man's-land of available directors. Smith, Jones and Brown are under contract to the studio and available. Smith, in your private opinion, couldn't direct traffic Sunday morning on a deserted side-street, Jones, through a niece of his who happens to work in the Script Department, has already read your script and he's made it known around the lot that he wouldn't touch it with a ten-foot pole. Brown—well, maybe. He's an old hand at the game with a lot of pictures under his belt—143 to be exact, since he started back at the old Sennett Studios in 1912. Sure, he can direct your picture and probably do it efficiently. But you're not just looking for efficiency in a director. You want enthusiasm and inspiration, too. And you wonder if a man can really feel enthused and inspired about his 144th picture.

Maybe you're being unfair to Brown, but you can't help feeling that on this particular script you'd rather have an eager-beaver. An up and coming new fellow like Bobby Robinson over at 20th Century Fox whose direction shows style and vigor and energy and—sock. Perversely, the ignoble thought crosses your mind that because of his youth he hasn't yet been able to push his salary up to a stratospheric level which will

(Continued on Page 40)
Filming The ‘I Love Lucy’ Show

Weekly CBS-TV comedy show filmed in Hollywood
sets pace for top-quality television.

By LEIGH ALLEN

If there is a revolution imminent in the production methods of motion picture making in Hollywood, it probably is taking place these days on Stage 2 of General Service Studios, where Desilu Productions, Inc. is turning out 22 minutes of TV program film in 60 minutes of actual shooting time.

Major film producers could take a lesson from this company which, like other makers of television films, was in the beginning faced with the problem of how to make films economically and at the same time successfully entertaining for the new medium. That Desilu is succeeding in this is evident in the fact the company is operating at a profit, and that its product, the I Love Lucy television show, is rapidly climbing toward the No. 1 spot in the national polls; at this writing, the show already is No. 4 in the ratings.

From the point of picture quality, technical men rate the show one of the best of all filmed TV shows. Credit for this is due to Karl Freund, A.S.C., who is directing the photography.
DIRECTOR of photography Karl Freund, A.S.C., (back to camera) looks on while assistant runs a tape from camera to Desi Arnaz during a camera rehearsal. Weekly production employs three complete camera crews which are supervised by Freund.

With the steady rise in popularity of the show, the photographic methods employed by Freund and his camera crews are creating widespread interest among producers of motion pictures—both major and television. Production executives from nearly every Hollywood studio have "scouted" the show during filming and have lauded Freund for his achievements.

Visiting the sound stage during a rehearsal or an actual filming of a *I Love Lucy* show, one is impressed by the methods and by the orderly manner in which production proceeds. There are none of the interminable delays which mark the production of films in the major studios. Delays could not be tolerated because the show must proceed much the same as an actual live show telecast, inasmuch as there is an audience also present on the stage. This audience is an important adjunct to the show and its audible reaction as the show unfolds is recorded simultaneously with the dialogue and becomes an integral part of the production.

The action in each weekly episode of *I Love Lucy* takes place on three basic sets erected more or less permanently on Stage 2. The sets, which represent the apartment of Ricky Ricardos (Desi Arnaz and Lucille Ball), consist of kitchen, living room, and a third room which is dressed as required. The sets adjoin one another and are, in fact "intercommunicating," so that action, such as a player entering the living room from the kitchen door, becomes a natural thing; and when the continuity of such action is to be picked up by the cameras, they are merely moved before the adjoining set and filming is resumed in a matter of seconds, as will be described later in more detail. Beyond this three-set arrangement is still another set representing the nightclub where Ricky Ricardo is employed as entertainer. Here the orchestra is assembled for every show, whether or not it is to be used in the picture filmed that evening.

The show goes before the motion picture cameras in much the same way it would as a live show in a television studio. Indeed, as Karl Freund points out, the almost continuous camera-on-dolly technique employed is adapted from standard TV camera operations for live shows.

The show is photographed on 35mm film with three Mitchell BNC cameras mounted on dollies, as shown in the photos. All three cameras shoot the action simultaneously. The camera in the center makes all the long shots with a 40mm wide-angle lens. The cameras at either side record the action in closeups, using 3-inch and 4-inch lenses. In the beginning, the company used a cue-track method, which permitted remote-control operation of the cameras individually for long shot medium shot and closeup, as the script demanded. This system was soon abandoned, however, in favor of regular film production methods, with the takes from the three cameras edited on the Moviola, etc. The (Continued on Page 34)
Significance Of Recent Excise Tax Cut On Motion Picture Equipment

By JOSEPH A. TANNEY

President, S.O.S. Cinema Supply Corporation

Good news, like the birth of triplets, sometimes has a stunning effect. It takes a while for parents to accustom themselves to their multiple blessings. Much in the same manner the motion picture industry has reacted to the "birth of triplets" in the new tax law on cameras, lights and equipment. The law, which reduces or eliminates excise taxes altogether, went into effect last November 1st; it will save us many millions, and it's almost too good to be true. Our industry is now relieved to a considerable extent from the unfair excises we formerly had to pay on professional business equipment which we use to earn our living or keep our places of business going.

It also appears that excise taxes have been removed entirely from all photo-finishing equipment, materials, and supplies; also on accessories such as exposure meters, flashguns, lighting equipment, darkroom apparatus, and materials such as film packs, sheet film and sensitized paper.

An extract from the bill containing the important provisions follows: "Items Subject to Tax: Cameras and camera lenses, unexposed photographic film in rolls (including motion picture film), 20%. The tax imposed shall not apply to x-ray cameras, to cameras weighing more than 4 pounds exclusive of lens and accessories, to still camera lenses having a focal length of more than 120mm, to motion picture camera lenses having a focal length of 30mm or more, movie film more than 150 ft. in length, or to film more than 25 ft. in length and more than 30mm in width."

That Congress was aware of the unfair burden which excise taxes loaded onto the motion picture business is evident in the fact that a bill increasing national taxes of all sorts by many billions still contained a provision for the relief of this industry. Strangely enough, the potent section on photographic excise taxes takes little more than a page in a tax law document having something over 150 pages. The favorable action, even though not all that was desired and deserved, shows that the principles of democratic government still are high in the minds of our lawmakers.

Despite pressure by many special interest groups and individuals, and snowed under by the deluge of paper and requests for hearings and interviews, congressional leaders were still available to such photographic industry leaders as Executive Manager Wilkinson of the Master Photo Dealers and Finishers' Association, William Babbitt, Managing Director of the National Association of Photographic Manufacturers and NAPM Excise Tax Committee members, H. A. Schumacher (Graflex), E. S. Lindfors (Bell & Howell), O. B. McRae and A. H. Robinson (both of Kodak). The Masters and NAPM along with these men, devoted hundreds of hours and thousands of dollars to the long, hard, frustrating job of proving the inequity of taxes indiscriminately applied to photographic equipment and supplies used by firms and individuals in the earning of a living.

This means that practically all cameras used in motion picture production, both 16mm and 35mm, magazines, camera tripods, blimps, most lenses, viewfinders, matte boxes and sunshades, dollies, geared and friction heads, animation stands and equipment, perambulators and camera cranes are now free of excise taxes. Many camera accessories such as alignment gauges, dissolves, titlers, etc., are presumably in the same category.

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March 1st Is Deadline For Contest Films

Six Hollywood cameramen will select the Top Ten amateur films to receive American Cinematographer Gold Trophy Awards.

By FRED W. JACKMAN, A.S.C.

LESS THAN SIXTY DAYS remain for amateur movie makers to put the final polish on their films and enter them in American Cinematographer's 1952 Amateur Motion Picture Competition. This competition closes at midnight, March 1. Already, twice as many entry blanks have been requested as last year and at this writing a formidable number of films already have been received by the contest chairman.

This nation-wide competition is open to any amateur-made 8mm or 16mm film, silent or sound, providing it was completed after January 1, 1950. It is necessary, of course, to place a footage limit on all entries, and this has been announced as 800 feet for 16mm films and 400 feet for 8mm films. However, because many contestants planning to enter pictures with sound on film have objected that 800 feet limits their entries in actual screening time as compared to silent films made at 16 f.p.s., the committee has decided to change this specification and allow the entry of 16mm sound films (or any film which must be projected at 24 f.p.s.) up to 1200 feet.

Perhaps no other competition the world over offers amateurs the opportunity to display their movie making ability before the most critical of judges—the professional cameramen of the motion picture studios. To have your film chosen to receive one of American Cinematographer's Gold Trophy Awards is to receive the highest professional accolade for your efforts and artistry—which may not be without significance. It could mean greater rewards ahead for you as a cinematographer.

Whenever I have opportunity to address a group of amateur movie makers, I am invariably asked how one should go about putting the finishing touches on a contest film. This is a subject for a comprehensive article in itself and I have often answered the question with a lengthy discourse, which may not have been without some professional aspects. However, I think the question has been expertly answered by one of your own fraternity of movie makers, Denys Davis, a London cine amateur and a frequent competition winner, who recently wrote in the British Kinematograph Weekly:

"My own method is to rough cut the picture first according to the script, then show it to as many persons as I can gather together and listen to their criticisms. Not infrequently this entails taking additional shots to cover uncertainties in the script.

"Then the fine cutting begins when the film will have to be run anything up to a hundred times before each shot has been pared down to its essential and I feel that the film tempo matches the mood of the sequences. This is, for me, the most interesting part of film production since it is the first time that the film as a whole begins to take shape. Having reached the stage where I believe the film is as perfect as it is ever likely to be, I put it away in its tin and try to forget it.

"Not less than a month later, I take the film out again and make notes as (Continued on Page 42)
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Amateur CINEMATOGRAPHY

Commonsense Lighting For Indoor Movies

By LEO J. HEFFERNAN

Photos By The Author

THE CINE AMATEUR’s most important resource will always be the reasoning power Nature has bestowed upon him, plus the accumulated information gleaned from his own experiences and that which has been passed on to him by others. In approaching the lighting problems for interior filming, without having given them previous careful thought, the amateur is apt to experience moments of panic. Actually, there is no mystery about photographic lighting. The basic principles are simple. Reasoning power, intuition, and the gradual development of good taste in lighting will ultimately lead any cameraman to the point where he possesses the lighting know-how necessary to good moviemaking.

Unconsciously, all of us have been studying lighting ever since we were born. For example, only by evaluating highlights and shadows are we able to determine the shape of everyday objects. Why do we like certain lighting arrangements and disapprove of others? Perhaps it is because over the years our eyes have become accustomed to seeing certain lighting effects, and those which we see most often become pleasing to us principally because we have become familiar with them. They are old friends, as it were.

Like many others, I forgot all about these old friends when I first started to make movies indoors. My tendency was to clamp two lamps to chair backs, and placing one on either side of the camera I managed to produce the finest third-
degree lighting one ever saw. I tried to be “artistic” by placing the lights in various positions, often on the floor, striving for the bizarre and unusual. I thought only of the light units themselves; where I might place them; never of the lighting effects. I imagine I had to “make like a genius” in order to produce pleasing lighting for my indoor shots.

I soon learned this philosophy was wrong, but only after several disappointments. In time it dawned upon me that the prime requisite of interior lighting is that it must be “convincing” and natural. There should be nothing about it which is strange or unaccounted for. From that time on, I thought only of the lighting; positioning the lights stemmed from that thinking. In other words, I did not ask myself, “Where shall I place the lights?” Instead, I queried myself as to the particular lighting effect I sought to create.

This, then, is the metamorphosis which transforms the bungler into an embryonic lighting technician. After a baptism of fire, he comes to realize that there are three general classifications of interior lighting:

1. Lighting which sustains the mood of the scene or sequence and which is pleasing to the eye, but is free of other considerations.
2. Lighting effects which are dictated by the presence in the scene, (or were revealed in an established shot), of light sources such as windows, fireplaces, home lamps, trap doors, etc.
3. Lighting of large areas, as in follow shots, or where only fast candid filming is possible.

How does one set about creating lighting which is pleasing to the eye, as in category one? Well, that is where the old familiar lighting effects come in—those which we have cherished throughout the years. How can we analyze them, pin them down, so that we will know just what we want? What exactly are these lighting effects which are “convincing and natural”? Where have we seen them so frequently that they have become a part of our nature?

Isn’t it true that in mid-morning or mid-afternoon outdoors when the sun shines from behind us, we have the “15-degree lighting” which Rembrandt brought to his canvasses? The sun’s rays project shadows but these are softened by light reflected from the sky and from nearby objects; and the general illumination is equally strong in the foreground and in the background. This, our best loved lighting, is called basic lighting when it is brought into the studio or the home. It is imbued with a quality known as “convincing” because it approximates lighting we see in everyday scenes.

Less pleasing are the effects in Nature of flat or shadowless lighting which prevail on overcast days when there is complete absence of light patterns, (highlight and shadow formations). Under such light conditions, individual objects in a scene are not pointed up nor set off by color and subject brightness. When color films first were used indoors flat lighting was employed generally by professionals and amateurs because of the narrow lighting contrast latitude of the color film. Afterwards, How does one set about creating lighting which is pleasing to the eye, as in category one? Well, that is where the old familiar lighting effects come in—those which we have cherished throughout the years. How can we analyze them, pin them down, so that we will know just what we want? What exactly are these lighting effects which are “convincing and natural”? Where have we seen them so frequently that they have become a part of our nature?

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COMMonsense lighting

(Continued from Page 29)

it was noted that colors reproduce satisfactorily as long as the shaded parts of the scene are given at least 25% as much light as highlighted areas. Therefore, indoor filmers went all-out for the more brilliant lighting.

The lighting effect in Nature having the greatest impact upon us is strong backlighting which occurs when the sun is shining from behind the objects at which we are looking; illumining them with a narrow halo of highlight, while the general front illumination is soft and subdued. Since such backlighting pleases us so much, it is not surprising that backlighting is used extensively in indoor filming.

Now, let us consider what we have learned from Nature:

1. All lights—except one—should have a high position in relation to the principal objects in the scene. Obviously, we are accustomed to light which reaches the scene from high up.

2. The one light which is not placed high up is the fill light. This is placed near the camera, usually on the side away from the main light, and its function is to soften or eliminate the shadows which are cast by the main light in much the same way that reflected light from the sky and other objects softens shadows outdoors. It should be as diffused and non-directional as possible. In other words, any shadows which it casts should not be perceptible nor disturbing.

3. The key light, (main light) which illuminates the actors and principal foreground objects should come from a single light source. If more than one lamp is used, then they should be close together so as to function as one unit.

In lighting a typical indoor scene for best results, the key light should be set for 45 degree lighting, meaning that the light from movie lamps falls off sharply with distance. We cannot depend upon the main lights to illuminate the background, and so floodlights or spotlights are placed outside camera range to illuminate the background. A meter reading will indicate when the background lighting is at par.

5. Backlighting in a modified form from that which enchants us outdoors is used to produce three-dimensional effects by a lighting phenomenon known as “separation.” Lights are placed high up and as far behind the actors as is feasible, (without the lightstands coming into picture range). If spotlights are used, their concentrated beam should not be so strong as to appear overbright. Its effect is observed from camera position with all lights lit. The limning effect separates the objects and by its depth and intensity will be most pleasing when dark objects or shadows in the background set it off. Conversely, a light background will devaluate backlighting. A favorite trick is to keep the upper parts of the background quite dark thus giving full play to the backlighting of the hair and shoulders of players, (usually occupying that part of the screen picture).

The second category into which interior lighting falls, embraces lighting effects dictated by the presence of room lamps and other light sources which are within range of the camera. This was covered in the first of these discussions in the September 1951, American Cinematographer. In that article we recommend that the highlight and shadow patterns which are created when ordinary room lights are turned on be studied with a view to reproducing such effects on the screen for amateur movies. Can the basic lighting principles—the familiar light patterns that we like—be used in conjunction with attempts to simulate the effects of ordinary room lighting?

Well, let’s say that a compromise may be reached.

The establishing shot, (long shot) is important because it shows the position of the room lamps in relation to the actors and thus fixes the overall scene in the minds of the audience. The authenticity of the lighting is revealed because the photo lamps are placed so as to make it appear that the light illuminating the room might conceivably have come from these lamps. Actually, a room lamp even with a photoflood bulb inserted will not do much more than throw a pattern of highlight from the bottom and from the top of the lampshade. To make up for this deficiency, the main lamp projects light on the scene from the general direction of the room lamp, and this light is concentrated upon the faces of actors or principal objects in the scene.

When the camera is moved in for medium shots and for the closeups, room lamps are usually out of picture range, and it is then that the “cheating” is done. The lighting of the actors may be modified to conform more nearly to basic lighting.

Why must this be? Well, let us suppose that a table lamp in the scene is located to the right of an actor who faces the camera. The long shot may have established this from an oblique camera angle, but we have cut to a front view closeup of the actor’s face. Were we to merely substitute a photo lamp in the position occupied by the table lamp in the long shot, it would throw a hard, unflattering light on the side of the actor’s face. Instead, we raise the key light, throwing it as far to the front as possible without destroying the illusion that the highlight is coming from the table lamp. Like a magnet, the ideal of basic lighting keeps pulling us onto safe ground.

The change in camera position also permits modifications of the fill light, the backlighting, and the lights which illuminate the background. These readjustments are made for utmost pictorial impact without too much regard for the original lighting in the long shot, unless there is conflict.

Changing and adjusting the lights can provide an endless variety of highlight and shadow patterns within the basic lighting framework. The main light may be set to the right or to the left of the camera and can be raised or lowered at will. It can be set directly over the camera for certain effects. But always, the eye of the cameraman must scrutinize and evaluate the changes made by shifting the lights. Only constant study will reveal the limitations stemming from good taste; a helpful rule is to reject first lighting efforts. Keep shifting the lights about until the spot is found in which each light serves your purpose best.

And now, we come to the third category—lighting large areas.

Not long ago, we were giving a demonstration of interior lighting, and two interesting questions were asked by people in the audience:

Tell me how to get artistic lighting effects with one No. 1 photoflood lamp in a reflector, and an 8mm camera? was one of the questions. The other was something like this, “My child invariably keeps running around the room when I try to get shots of him. How can I light the whole room so I can

(Continued on Page 33)
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photograph him anywhere?"

It was pointed out these filmers' problems could readily be solved by using the handy light arrangement setup which is pictured at the beginning of this article on page 28. While an arrangement which calls for the third-degree type of lighting is not ideal, still it is the lighting which has been recommended for years in the instruction sheets covering color films. Thus it cannot be written off as a total loss.

The lights in the illustration are clamped on a rod, with the camera mounted in the center, so that lights and camera move together as the tripod head is adjusted. When panning, the camera points toward the center of the lighted area. This means that the lights are not fixed, but move with the camera at all times; and as the resulting lighting is flat, there is a minimum of shadows to be reckoned with.

I have used this light setup in photographing candid action at weddings and parties, and it represents the fastest means of shifting from one scene to another that I know of. For each new scene, it is only necessary to adjust camera for distance and diaphragm opening. In quick shooting, an assistant is alerted to measure the distance with a tape, then set the focusing ring of the lens and adjust the diaphragm. Before filming commences, a table is compiled indicating the proper diaphragm stops at varying distances from 3 feet up to the greatest distance at which these lights can be used. The outfit I have is so efficient that the two No. 2 photoflood lamps used have a light output equal to four R2 photoflood lamps.

There are several ready-made lighting units such as this available in the camera shops, some of them employing four photofloods instead of two. Here is a table of distances and stops which we compiled just before we started to make the long dolly shot illustrated:

<table>
<thead>
<tr>
<th>DISTANCE FROM FILM PLANE TO SUBJECT</th>
<th>F STOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 feet</td>
<td>6.3</td>
</tr>
<tr>
<td>4 &quot;</td>
<td>4.5</td>
</tr>
<tr>
<td>5 &quot;</td>
<td>3.8</td>
</tr>
<tr>
<td>6 &quot;</td>
<td>3.2</td>
</tr>
<tr>
<td>7 &quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>8 &quot;</td>
<td>2.2</td>
</tr>
<tr>
<td>9 &quot;</td>
<td>2.0</td>
</tr>
<tr>
<td>10 &quot;</td>
<td>1.8</td>
</tr>
<tr>
<td>11 &quot;</td>
<td>1.6</td>
</tr>
<tr>
<td>12 &quot;</td>
<td>1.5</td>
</tr>
<tr>
<td>13 &quot; approximately</td>
<td>1.44½</td>
</tr>
<tr>
<td>14 &quot;</td>
<td>1.39½</td>
</tr>
</tbody>
</table>

Now, these are the stops just the way we tabulated them, and it can be seen

---

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that the incident light readings indicated above conform very closely to the “25% as much light for each doubling of the distance” formula. If the stop for 5 feet (f/3.8) is taken and compared with the stop for 10 feet (f/1.8) it will be noted that the larger opening admits about four times as much light. The stops compare as their squares compare.

In the sequence showing the two girls struggling for possession of the letter we could, of course, take our time in shooting, and the candid type of lighting setup was used only because the girls were followed over an extensive run by the camera. With the lighting units we had at our disposal it would have been impossible to light up entirely the course the girls took, and so we solved the problem by mounting lights on the dolly-mounted camera. At the start of the shot, the long hall behind the girls was dark. Here we installed some extra units to light this up. When the camera drew away from the first viewpoint, the action was staged close to background walls — and so the lack of supplementary illumination is not noticeable. Throughout, the camera was always the same distance away from the subjects. It is not practicable to change both the diaphragm and the focusing ring while the camera is running.

At weddings, we sometimes work without a tripod, but with the camera and lights clamped together for fast shooting. Under the trying conditions encountered at the home of the bride, in the church, and at the reception, almost nothing can be staged elaborately. All a cameraman can hope to do is anticipate the shots which are a “must” then move in and shoot fast. With one assistant acting as “juicer” handling the extension cables, and another measuring distances and then adjusting the camera for focus and exposure, the cameraman can move about at will taking pot shots at the rich material which happens once only, and get it.

Of course, this lighting setup is not used for the formal shots of the bride and groom, and of other “members of the wedding,” since such shots can be made more leisurely at the reception.

The answer for the amateur who wanted to know how to photograph his child who kept scurrying around the room, is the camera-clamped-to-lights method of indoor filming described here. With such equipment, he can follow the child all over the house, if he so desires, (providing his extension cords are long enough). As for the filmer who has just one No. 1 photoflood lamp and an 8mm camera, he cannot achieve “artistic” lighting with a single photo lamp, regardless of the camera used.

FILMING 'I LOVE LUCY'  
(Continued from Page 23)

The result is greater speed in the photography of scenes and better results in the final editing.

Cueing of camera operators, grips operating the dollies, and of the gaffer handling the light dimmers is still a major function in the production of the weekly films. When the show is being photographed, the script girl in a booth overlooking the stage is in direct contact with the key technicians at all times via two-way intercom phones. Although each man previously is briefed on the operation and in many cases has floor marks to guide him, the script girl insures against any possibility of error by her timely cues. Impressive is the speed with which the crews move on to the next setup and start shooting again. A special check made of this operation showed that elapsed time between camera setups averaged a minute-and-a-half.

A major factor making such speed possible is the lighting arrangement worked out for the production. Since invariably the players are in action over almost the entire set, the light intensity must be uniform over the entire area at all times. There are no light changes, other than those made by dimming. All set illumination, therefore, is from overhead. There are no floor lamps and the only illumination from a lower level comes from the portable fill lights, which are mounted just above the matt box on each camera. The set lamps are rigged on catwalks, which are suspended above the sets. The light units consist of Seniors and converted Pans with spun glass diffusers added. The overhead lighting scheme keeps power cables off the floor and makes feasible the unobstructed operation of camera dollies as well as quick movement of camera equipment to the subsequent setups.

“To light a set for three cameras operating simultaneously and from different positions is a problem in itself,” Freund said. “We have to light as uniform as possible, yet watch for opportunities to add highlights whenever we can. This is highly important, inasmuch as it is a comedy show requiring high-key illumination.

“Contrast also has to be watched carefully, since the tube in the film image pickup system of the television station is quite contrasty. Any contrast in the film therefore is compounded if not exaggerated in each step of the transmission of the picture. This makes it necessary to keep the contrast in the original negative down to what we call a ‘fine medium.’”

This knowledge of the contrast secret is further revealed in the decor of the sets. These are painted in various shades of grey, Props likewise follow the ethical demands of correct contrast, as do the wardrobes of the players. Even newspapers, when they are to appear in a scene, have to be tinted grey. Such overall uniformity of colors or tones in the scenes make rigid demands on the lighting and has resulted in the careful illumination formula which Freund and...
his gaffers now regularly employ in lighting the sets.

Although each weekly show goes before the cameras at 8 o'clock Friday evenings, and is photographed entirely the same evening, the preceding four days are employed by the company in rehearsals, pre-production planning and script revision. The camera crews have but two schedules in the five-day period—on Thursday and Friday.

The director, actors, and writers gather on the stage for a reading of the script on Monday and Tuesday; late Tuesday afternoon the first of the rehearsals are held. By Wednesday afternoon, the company is ready to run through the show for Freund. This usually takes place at 4:30. No cameras are on the set at this time, nor are any members of the camera crews present. During this rehearsal, Freund studies the players in their movements about the sets, takes note of how and where they enter and exit, and plans his camera operations and lighting accordingly.

The following morning at eight o'clock Freund and his electrical crew begin the task of lighting the sets, and endeavor to have the job completed by noon. At this time, the camera crew members come on the set and are briefed on camera movements, etc. With the crews and cameras assembled on the
stage, camera action is rehearsed. This enables Freund to make any necessary changes in the lighting or operation of the camera dollies. Cues for the dimmer operator are worked out at this time. Chalk marks are placed on the floor indicating the positions the cameras are to take for the various shots or the range of the dolly action for a given scene.

At 4:30 P.M. Thursday, there is another rehearsal—this time with the camera crews, gaffers, sound men, etc., on hand. Then at 7:30 the same evening a dress rehearsal is held. Freund, camera operators, gaffers and grips are on hand—but the cameras are not brought on the floor. At this time the general plan of the show is discussed by the director. Notes are made for future guidance by all present. An open discussion then follows at which time lines of dialogue are cut, action shortened or deleted, camera movements analyzed—in short, everything is done at this time that will tighten up the show and improve its pace. This is the period in the pre-production planning when problems are aired and suggestions made and considered.

On Friday, when the show is scheduled to be shot, there is a 1 P.M. call for everyone in the company—players, technicians, the producer and the director and his staff. If any major changes in the action, dialogue or camera treatment were decided in the previous evening's discussions, these are now worked into the show during another general rehearsal.

A final dress rehearsal takes place at 1:30 P.M. with the cameras now on the floor. Freund gives his lighting a final check, makes any necessary last minute changes before the company breaks for dinner.

After dinner, company and cast return to the stage, and there follows a general “talk through” of the show. At this time, further suggestions are considered and decisions made on any remaining problems, so that by 8 o'clock the company is ready to film the show.

In the meantime, the audience seating on the stage has rapidly filled and Desi Arnaz or some other member of the company is briefing the audience on the show, explaining the filming procedure, and emphasizing the importance its natural, spontaneous reaction plays in the show's success.

Then for approximately sixty minutes the show is filmed. As soon as action is completed for one setup, the cameras, crews and players move rapidly to the next setup, and the action is resumed. All scenes are shot in chronological order.

As is to be expected, where a production receives such meticulous planning and thorough rehearsals, retakes are seldom necessary. In this respect, each camera operator has a major responsibility. He must get each take right the first time—every time. Of course, he can hardly miss, considering the careful preparation that went into the filming phase of the production beforehand. Focus was carefully measured and noted for each camera position; chalk marks were placed consideration the on stage floor; there were the numerous rehearsals, and of course there is the vigilant script girl overlooking the proceedings, relaying instructions over the intercom system.

In the beginning there was a very definite reason for the decision of Desilu Productions to put the I Love Lucy show on film instead of doing it live and having kinescope recordings carry it to affiliate outlets of the network. The company was not satisfied with the quality of kinescopes. It saw that film, produced especially for television, was the only means of insuring top quality pictures on the home receiver as well as insuring a flawless show. "Putting a show on film, you can plan and cut, which you can't do with a live show," Freund explained. "Also, you avoid the fluffs which are bound to happen in live shows. But most important, if the film doesn't look right after it's edited, you can re-shoot scenes, and add others to improve the picture, if necessary."

A question frequently-asked is why—as long as the show is filmed, the same as a theatrical film—does the company employ three cameras instead of only one, as do the major studios. The answer is that the I Love Lucy show must retain the illusion and the effect of immediacy of a live TV show. For this reason it must be filmed before an audience, and this makes it necessary that the production unfold as continuous as possible, much the same as a stage play, with only two or three interruptions—as on the stage when there is a pause between acts. This makes it necessary to shoot the various long shots, medium shots and closeups all at the same time in order to provide the film cutter with the desired takes for editing.

The three cameras shoot an average of 7,500 feet of 35mm film per show. The filming procedure, as presently followed, Freund pointed out, is far less costly than major studio film production. One of the first significant moves by Desilu Productions was to surround its stars with the best technical and creative talent—ideally illustrated by its decision to sign Karl Freund, dean of cinematographers, to direct the photography of I Love Lucy shows. Freund is one of the few cinematographers active today who saw the start of silent pictures, of sound films, of color photography, and now television films—and who had a hand in the development of each. To accept the Desilu assignment was to accept the challenge of obtaining the quality of film image demanded of television films, despite the technical handicaps understandable in a new industry.

"What we are striving to do," says Freund, "is establish a standard that will please the television industry. At present, it is useless to try and improve further the photographic quality of TV films until the industry is ready for it—that is, until there is further technical improvement in the various electronic components of the television system. Already, in recent months, the industry has made great strides in this direction, with considerably improved picture quality from TV films now evident."

'AMERICAN IN PARIS' (Continued from Page 19)

The filming procedure, as presently followed, Freund pointed out, is far less costly than major studio film production. One of the first significant moves by Desilu Productions was to surround its stars with the best technical and creative talent—ideally illustrated by its decision to sign Karl Freund, dean of cinematographers, to direct the photography of I Love Lucy shows. Freund is one of the few cinematographers active today who saw the start of silent pictures, of sound films, of color photography, and now television films—and who had a hand in

(Continued from Page 19)

impact of the cafe interior in the beginning of the picture is due to the fact that the photography was planned to encompass the action, comparable to several scenes or takes, into one continuous take. Cuts were avoided wherever possible; also, the very natural action in the street in the background, such as people passing by, traffic moving in the streets, etc., added to the authenticity we were aiming for. This all had to be planned from the camera point of view in order that the full scope of both scene and action could be captured with a naturalness that frequent cuts cannot make possible.

The camera was mobile-mounted perhaps 80 percent of the time. Thus it moved from ground level in the opening of the picture to the second-story window of Kelly's room, and moved in and out the window. In still another scene, where players climb a narrow stair to a third floor room, the moving camera follows them as they ascend, and finally as they walk around the stairwell rail. This narrow, three-wall set over 35 feet high, with the Technicolor camera and boom almost fulfilling the open side, always posed a bit of a lighting problem. No small measure of credit is due my camera crew, my gaffer and my grip; for moving camera shots, such as described above, require the precise coordination of all hands. Needless to say, a motion picture is created by many hands. The thre...
on stage 30. The foreground was practical set construction. In the background the bridge of the Archeveche and view of the Cathedral of Notre Dame were painted on a hundred-foot cyclorama, which merged with the set in the foreground. The water in the river was real—a portion of the huge tank on this stage was filled and mechanical means employed to give motion to the water. Special attention was given here to the effect of night illumination in order to keep the scene looking as romantic as possible.

In all of the night exterior scenes throughout the picture we used some smoke or fog, and lighted wholly or partially with warm- or cool-colored filters—according to the demands of the setting. This was a definite help in capturing the feeling of night in the city.

From the Quai, the girl (Leslie Caron) leaves Kelly to meet her fiance (George Guetary) whom we see singing a number in a spot-light effect in a French music hall of the Folies-Bergere type. Two unusual features of the stage setting for this sequence were the candelabra on either side at the foot of the stair. These were formed of beautiful girls in living sculptures. It is, of course, futile to gild the lily; but no one ever said you can't glamorize glamour. We tried it, with these beautiful chandelier girls, by putting a light magenta filter...
over the arcs playing on them. As a result, their skin assumed an extraordinary soft-glowing texture.

Concerning the stairway, interesting is the manner in which the risers lighted and extinguished in such perfect time with Guetary's dancing feet, as he moved up and down the stair. The risers were made of glass, with a circuit of lights behind each one. Each riser was on a separate circuit, controlled by a mercury switch. All circuits ran to an ingenious master drum controller, devised by Sid Moore of the MGM electrical department. During the takes, the controller was operated by Gene Kelly's able dance director, Carol Haney. Because of her complete familiarity with the music and routine, she was able, after a few rehearsals, to operate the controller in perfect sync—as smoothly as a musician in the orchestra playing his instrument.

Another lighting example involved the closing scene of the picture in which Kelly, on the balcony outside the Black-and-White ballroom, watches Caron and Guetary running away, down a long stairway to the street below. This was a night shot made in daylight. We photographed only the lower part of the scene; the upper part representing the sparkling Paris skyline at night was later filled in by a "Newcombe process shot"—a method of special effects photography devised by Warren Newcombe. This set is shown in the lower left photo on page 19 from reverse camera position, with the camera platform and camera and crew at the top.

Our part was to mask off the scene before the camera in an irregular line at the top, corresponding to the area to be filled in by the Newcombe process, and to photograph the lower part of the entire scene to give the illusion of night. Shooting day for night with Technicolor film, we drastically cut exposure and used exceptionally strong practical light globes in the lamp standards lining the stairway. In addition, we had decorators paint the light effects on the walls of buildings to our left to further the illusion of night illumination coming from the lamps. The real key to effectively lighting this set was shooting it with the soft light of low, late-afternoon sun.

The stage setting where Oscar Levant gives his "dream concert" called for unusual lighting treatment. It was necessary to show Levant playing with a large symphony orchestra—first as guest soloist on the piano, then, in quick succession, replacing a number of the musicians, then conducting the orchestra—even applauding himself from one of the boxes—all in the course of a number which the entire orchestra is playing with much brio. To do this, we lighted the whole set without actually lighting the faces of any of the musicians, the conductor or of the audience, so that all appeared in silhouette. Thus, Levant could be placed in any of these positions as a dark figure preliminary to making a close shot, during which he would lean slightly one way or another so as to bring himself into a closely controlled key light, and thus disclose himself to the audience.

The fine multiple-image shots of Levant in this sequence were made by Irving Ries' optical effects department. A most interesting set both to light and to shoot was the scene of the Black-and-White Ball—a vast set crowded with dancers. The costumes and decor were all jet black or real white—a challenge for Technicolor film. I think all will agree these scenes turned out very well.

The concluding ballet sequence was filmed a long time after the picture in its original format was completed, and was not part of my assignment.

I went to see An American In Paris recently with Buckley MacGurrin, the old friend with whom I first saw Paris, nearly twenty years ago. MacGurrin, no longer a struggling artist, is now painting in California. He had some nice things to say about the picture, and I would like to close, quoting him thus:

"However spavined and windbroken the expression may be, it is still authentic and inescapable: Paris is all things to all men. Seen through a million pairs of eyes, Paris is a million different cities, and each one of them is fiercely loved."

"The aspect of the unique city which is treated with such sympathetic insight in An American In Paris is to me the most endearing of all, since it is the one I knew so well for so long—the Paris of the young expatriate painter, intoxicated by his first real contact with great works of art."

"Selecting the Butte Montmartre as locale for much of the picture was an admirable thing, for while I suppose there have been more artists in the Montmartre area than in Montmartre for the last forty years or so, the heights of Montmartre, dominating the city, have great value as a symbol of the young painter's aspirations."

"In the same connection, those who have lived on the venerable hill will remember it, I am sure, as a shabby quarter whose slippery cobblestones, between the leperous walls of dilapidated stone buildings, shine dully with rain from low-hanging, sulphurous clouds for much of the year. They will not have forgotten the soggy shoes and the cold, damp feet; the persistent cough; the steamy little cafes where tired overcoats drip onto the floor; the cold,
draughty studio, the model with blue skin and gooseflesh, and the snow sift¬
ing through the skylight onto the bed.

"You don't see this Montmartre in An American In Paris." If you did, it
might be more realistic. But I don't think it would be as real, if I may be
permitted the distinction. For Alfred Gilks' magic camera, as it lovingly
careses the sun-bathed facade of the old hotel from street level to upper
stories and from room to room up to the dormer windows, or wanders with
such benign discernment from the tender, vaporous blue sky of the Ile-de-
France to the white dome of Sacre-Coeur, down into the cheerful street and
along the cafe terrace, not only re¬
creates to a really poignant degree that
incomparable delight which comes with
the rare, soft, matinal sunshine of Paris,
but achieves a higher and more artistic
form of realism. Because here the cam¬
era does more than record: it inter¬
prets, and it does so most faithfully in
the sense of the young painter's inner
vision — the golden vision which will
remain with him, warm and tender,
forever after, in spite of all the sinis¬
ter forces which later will seek to de¬
stroy it."

EXCISE TAX CUT

(Continued from Page 24)

cessories are now free of excise taxes.
It is interesting to note that certain
types of spotlights used for theatre stage
presentations or in television produc¬
tions were not taxable, but the selfsame
spotlight used for photographic or mo¬
tion picture purposes was previously
taxed 25%. Some manufacturers were
forced to bring out an entirely new line
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these burdensome excises could not be
assessed.

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SCRIPT PROBLEMS IN FILM MAKING

(Continued from Page 21)

cripple your budget either.

The only trouble is that Robinson is under contract to 20th Century Fox and when you investigate his availability, you learn that Twentieth won't be able to loan him out for at least 6 months because of their own production schedule. And that's that.

So you wind up after a couple of weeks with freelance Freddie Fubbil and that's not a bad compromise, Freddie is young, eager, ingenious, and affordable in a granite sort of way. He has read your script and told his agent that he'd love to do it—subject, of course, to a few little changes in thematic material, construction, and dialogue that he'd like to suggest.

He comes to your office and you have it out with him. You listen to what he says about the story, and some of it makes sense—some of it doesn't. Some of it derives from the fact that a new and intelligent mind is now examining the material in the light of his own subjective approach and there's bound to be discrepancies between any two—or three—subjective approaches.

But whatever the basis of discussion is, the fact remains that a new member has been added to the producer-writer team, and out of the synthesis there must emerge still another script; this time, you hope, it is the shooting script, including in as accurate detail as possible the director's visualization of the finished film, scene for scene, shot for shot.

This effort, however, has been concentrated within the walls of your own office. Meanwhile, fifty or sixty of these yellow-covered scripts have been circulated to the various production and service departments of the studio, The Art Department, the Construction Department, the Wardrobe Department, the Camera Department, the Legal Department, the Censor's Office, and so on. They have studied it, timed it, estimated it, and budgeted it, and sooner or later you find yourself in the offices of the production manager of the studio, feeling somewhat like a subpoenaed guest before a Senate sub-committee in Washington. You learn, among other things, that while the estimate for Cast, Bits, and Extras has come in low by $10,000, you're over almost $10,000 on sets. You learn that by the time your troupe will arrive at a location in the High Sierras where you're going to shoot the waterfall sequence, there won't be any water because it's been an unusually dry season in California, so you will either have to go farther north up to the Cascades or else maybe build a waterfall right here on the back lot.

The studio production manager suggests hopefully that perhaps you can write the waterfall sequence entirely out of the script, and the director screams like a wounded panther at the very idea. But when you think about it, it strikes you that maybe the studio manager has a point after all, and you make a mental note to consider it carefully when you get back to the office.

The Music Department has one or two suggestions, too. How would it be if you substituted a sentimental etude on an off-scene piano for the serenade under the balcony? The mood would be sustained just as effectively and the forward progression of the action wouldn't be interrupted. You file that one away, too, to think about later.
Finally the meeting ends, but as an after thought on the way out, the studio manager tells you casually that because of the cancellation of the sequel to “Grandmother of the Bride,” your starting date has been moved up 7 weeks, which means you have exactly 8 working days left to start the picture.

That night when your wife brings up the subject of Palm Springs again, you barely manage to refrain from beating her to death with a roast leg of lamb.

Well—if rubber stamps were accurate, your next script covers should read FINAL — COMPLETE — REVISED — FINAL, but you still might be kidding yourself. For example, as you’re coming into the studio the next morning, you might bump into somebody like the dramatics coach who will greet you by saying, “Have you heard the news? It’s simply wonderful, Lana’s going to have a baby—she’s been keeping it a secret,” and leaving you standing stricken on the sidewalk while she hurries on to the commissary for her morning coffee. Lana, it so happens, is your dramatic lead. Her impending maternity means, at the least, that you will have to revise her wardrobe, at the most you might have to have her part rewritten at the last moment for somebody else.

(Continued on Next Page)
Other counties will be heard from, too: the Legal Department, having examined your script, has discovered that out of 57 proper names mentioned in dialogue or registered visually on office doors, signboards, newspaper headlines, and telephone directories in the story, exactly 22 have real life counterparts who might conceivably institute lawsuits for invasion of privacy. Attached you find a list of suggested substitute names—all of them impossible. You call your writer and director, and the three of you start dreaming up new ones.

Censorship has finally gotten a decision from the Johnston Office about the moonlight bathing sequence in the mountain pool. You can do it if there isn't any moonlight. The only trouble with that is there's no way for the cameraman to photograph it. So all of you had better sit down again and try to figure out an alternative sequence.

Last but not least, comes a memorandum from the Research Department.

There were no spikes on telegraph poles prior to 1863. "Jeepers creepers" was not in common usage as a slang expression at the time your story takes place. According to the common law, a morganatic alliance is recognized as legal matrimony in the State of Oregon, so your hero, if he marries his childhood sweetheart at the end of the picture will have committed bigamy.

Can you do something about this?

You not only can—you must. And you do. Because tomorrow shooting begins, the picture is finally on paper—but it's an awful lot of paper.

Your wife, by the way, left for Palm Springs exactly eight days ago—by herself.

WESTWARD THE WOMEN

(Continued from Page 15)

Half way to California one man breaks the rule and is shot on the spot by Taylor. This leads to dissension among the men, and that night, all but two of them desert, taking some of the women with them. The remaining women, along with Taylor and the two faithful males who stayed on, are now faced with driving the wagon train over the desert wasteland to California. The trials and tribulations which they encounter make a stirring picture. There are raids by roving bands of Indians, windstorms, desert heat, stampedes of their cattle and horses, and accidents— all played against the spectacular backdrop of desert, canyons, hills and cloud-flecked skies enhanced by skillful camera work.

To point up the desolation, the relentless heat from the barren desert, and the wind and dust storms, the use of sky-darkening filters was avoided. Where others might have resorted to filters to gain high-contrast skies and thus bring out the clouds for added pictorial effect, Wellman would have none of it in this picture. "I want the audience to feel the intense sunlight, the desert heat and evaporation, the barrenness of the land, the absence of water...just look at that land...and be apathetic about it as Wellman would have none of it in this picture. "I want the audience to feel the intense sunlight, the desert heat and...
Mellor used a 5N5 filter plus a pola-screen, and set his camera shutter at 90°. So intense was the light, meter readings consistently indicated a stop of f/45. With the filter-pola-screen combination before his lens, and the ability to reduce his camera shutter opening, Mellor shot in bright sunlight at f/8.

One of the "surprises" which Surprise Valley held for the hundreds of players and the technical staff was the gruelling 65-mile bus trip out to the valley from Kanab, and back again at the end of each day. Normally, this sort of trip is considered all in a day's work for natives, but oddly enough it was the score of women extras recruited in Kanab that were the first to complain about the trip, and ultimately quit. They had to be replaced by additional extras from Hollywood. The Hollywood players stuck it out till the end of the picture.

Nor were the players and technicians the only ones who sometimes found the going pretty tough on this location. The camera equipment particularly was subjected to excessive heat and dust and often rain and snow. This made it necessary to take the cameras apart for inspection and cleaning at the end of each day, and then re-assemble them. The company brought along three Mitchell BNC's. Two were used in shooting every scene; the third one was held in reserve in case of breakdown or accident. At all times optical flats were mounted in front of the lenses to protect their delicate coated surfaces from pitting by sand, which the wind seemed to be stirring up all the time.

An item of equipment that proved of immeasurable help to Mellor was the four-wheel-drive camera car, which Hollywood technicians have dubbed the 'Blue Goose.' This is fitted with a hydraulic lift and platform on the front and is normally used as a mobile camera car in rugged terrain where other camera cars cannot be used. Mellor used his director Wellman insisted on using instead. The company brought along a 1000-amp motor generator, which supplied the necessary current. Later, this equipment was put to good use in shooting scenes for the closing sequence of the picture, which were staged within a large pavilion on the ranch. This had a huge overhanging roof, but no sides, making it necessary to step up the lighting for scenes filmed inside, balancing the illumination against the intense daylight in the background. This proved Mellor's toughest lighting problem on the whole picture and sometimes, he says, they were drawing more than the generator's rated amperage capacity in order to get the light volume needed for these scenes.

Having spent six weeks in Surprise Valley and in and around Kanab, during which time more than 50% of the picture was filmed, the company gathered together its equipment, cast and technicians and returned to Hollywood to shoot the few scenes scheduled for the sound stage. Of these, the most technically interesting was the rainstorm sequence, during which one of the covered wagons, inundated by the swollen stream, overturns drowning some of its occupants. The realistic raging stream was executed on MGM's stage 30, and the overturning of the wagon staged on a replica setup at the back lot.

(Continued on Page 45)
Columbia
- ELLIS CARTER, “Rainbow Round My Shoulder,” (Color) with Frankie Lane, Billy Daniels, Charlotte Austin. Richard Quine, director.

M-G-M

Monogram

Paramount
- George Barnes, “Famous,” (Color) with Bing Crosby, Jane Wyman, Ethel Barrymore, Elissa Nugent, director.
- John F. Seitz, “Botany Bay,” (Color) with Alain Laund, James Mason, Patricia Medina, Murray Matheson, Dorothy Patten. John Farrow, director.

American Society of Cinematographers
FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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**Paramount (Continued)**

**R.K.O. (Continued)**

20th Century Fox

Universal-International

Warner Brothers

January, 1952
After this, there still were some exteriors to be filmed and for these, location sites in the Mojave desert had been chosen. The company set out again for another session of outdoor filming that included the staging of the immense desert trek shots. At first, Wellman had planned to make this a night sequence, shooting day-for-night effects using infrared film, reasoning that the pioneers would have made the trip by night in order to escape the desert heat.

Mellor suggested that in view of the stark nature of the story already depicted in the scenes shot in Utah, that it would be reasonable to take dramatic license here and make this a day sequence, also. Besides, he pointed out, the photography would not be subject to the inconsistencies of infr-a-red film and, furthermore, would be more in keeping with the pictorial quality already established in the sequences shot in Surprise Valley. This was not the first time that Wellman had listened to the wisdom of his cameraman and profited.

The fact Westward The Women is the fifth picture Bill Mellor has photographed for director Wellman makes it pretty obvious that he's Wellman's favorite cameraman. The productions include three at MGM and two at Paramount. Mellor also photographed A Place In The Sun for Paramount, and this along with Westward The Women should be high on the list of pictures nominated for Academy Awards for black-and-white photography for 1951.

**DOCUMENTARY ON COAL**

*(Continued from Page 17)*

when tapped will flow smoothly, but it is not infrequent for the furnace to "blow" and shower molten metal clear across the enormous room. Such a "blow" would now reach the platform where the camera and lights were mounted. While safety engineers judged Geisel and his camera to be safe from such an eventuality, because they were at an angle to the furnace, it was conceded that some of the lamps would be destroyed if a "blow" came, but that it was worth the gamble to get the picture. Fortunately, the tap went off smoothly, and provided one of the best sequences in the film.

In filming the coke oven scenes, the resistance of camera, film and the human body to intense heat was amply demonstrated. Heat rises, and the degree of heat on the topside of a coke oven must be the closest approximation to Dante's Inferno this observer has ever experienced. Yet camera and crew spent a roasting half-hour in tempera-

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MAURER, latest model 10, complete, $ cases, accessories, like new — $3,645

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MORAVIA 7 IB, spider turret, 3 lenses — $419

MORAVIA 7 IB, spider turret, 3 lenses — $419

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ALASKAN FOOTAGE — 16mm Kodachrome for professional productions. Eskimos, Indians, Idus, Cities, Animals, Flowers, etc. Write to Dr. George L. Lyman, 20 West 22nd St., New York 11, N. Y.

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SHADOW—PHOTOGRAPHERS—FILL THE GAPS IN YOUR VACATION KODACHROME RECORD. CHOOSE FROM 1,000 TRAVEL SLIDES FREE LIST, SAMPLE 25C. SLIDES BOX 206, LA HABRA, CALIFORNIA.

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16mm and 35mm motion picture, laboratory and editing equipment.

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NO QUESTION, the show will go on—tonight—and every night... go on with all the blood-and-thunder that distinguishes the new-day Western—a stellar example of work inspired by modern technics, equipment, and materials.

Here, too, is a stellar example of the way the Eastman Kodak Company functions through the Eastman Technical Service for Motion Picture Film.

For, in addition to aiding studio and laboratory in film selection and processing, representatives collaborate with exchange and theater in helping solve problems of projection—help check film and equipment... make light measurements, determine proper levels... all to help assure good showings, black-and-white or color.

To maintain this service, the Eastman Kodak Company has branches at strategic centers... invites inquiry from all members of the industry. Address:

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The finest magazine loading 16mm cameras ever! You'll know it from the moment you see these brand new "200's"... so appealing to the eye in their gray scuff-proof finish and satin chrome trim. But proof is in the using of these cameras... in experiencing the versatility they make possible. Here is everything you've ever wanted in a camera—beauty, dependability, simplicity of operation, and the name that stands for superb quality in movie equipment — Bell & Howell. Before you make your choice of a camera, be sure to see these outstanding "200's." Have your dealer show you both models—the single lens and the turret. Most dealers offer liberal terms and trade-ins.

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- Instant magazine loading
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Winner of the coveted Society of Motion Picture Art Directors Award

*During life of the product any defect in workmanship or material will be remedied free (except transportation). Prices subject to change without notice.

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AMERICAN

LEONARD CLAIRMONT

$3.00 YEARLY IN U.S.

CINEMATOGRAPHER

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY
THEATRICAL • TELEVISION • 16mm COMMERCIAL • AMATEUR

THIS MONTH: Two Important Articles on Stereoscopic Movies

On location in Guatemala for Fox's "Condor's Nest" — Ray Rennahan, A.S.C., directing the second unit photography

FEBRUARY 1952
Throughout the past twelve months, American-made motion pictures have steadily improved in quality, technique and presentation ... an accomplishment recognized by the theater-going public and happily reflected in the increased weekly U. S. audiences.

No mere coincidence, however, this betterment of the motion picture stems from the sincere efforts of all concerned. It is the product of teamwork within the industry plus an intense desire to produce motion pictures of truly outstanding merit from every point of view.

Today’s marked revival of public interest in the motion picture is a satisfying and creditable reward justly due every member of the industry. It is a well-deserved compliment to those whose never-ending faith in their work has so effectively enlivened the entire scene and made “Movietime, U.S.A.” the great success it has been.

E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware.
You know this camera as well as you know your own name.

You know that the negatives it photographs are the steadiest in the business.

You know it is largely responsible for the standards of perfection in the industry today.

You know the company that makes it.

But do you know that this camera has the only intermittent film movement that runs at 200 frames per second?
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ON THE COVER

RAY RENNAHAN, A.S.C., lines up the Technicolor camera for a scene filmed on location in Guatemala for 20th Century-Fox's "Condor's Nest," starring Cornel Wilde and Constance Smith. Rennahan directed the second unit photography during a two-week stint in the Central American country where he filmed atmospheric and background shots for the picture. Players in foreground are Finlay Currie and Constance Smith. Wilde is seated to left of camera. Edward Cronjager, A.S.C., is directing photography on the production at Fox studio.—Photo by Jimmy Mitchell.
SOME of the most exciting achievements in movie history are coming out of Hollywood today. And still prominent in the forward march of production techniques is improved lighting — provided, of course, by "NATIONAL" CARBON ARCS.

Throughout the fabulous Quo Vadis, for example, lighting was modified over a wide range of values—from 150 to 5,000 foot-candles—to reinforce dramatic progression. Prominent among some 250 tons of electrical apparatus shipped to Rome from the U. S. was carbon-arc lighting equipment—indispensable for the foot-candle flexibility appropriate to this film's epic brilliance, sweep and color.

From panorama to close-up, ONLY the carbon arc can provide this BIG 5° for the best in film quality...and the most in box office.

You can't skimp on studio lighting without risking box office!

The term "National" is a registered trade-mark of Union Carbide and Carbon Corporation

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WHAT'S NEW
in equipment, accessories, service

ARRIFLEX BLIMP—Kadisch Camera & Sound Engineering Co., 128 West 48th St., New York, N.Y., announces a new lightweight soundproof blimp for the Arriflex motion picture camera. Blimp has external control for follow-focus, built-in syncronous motor, and accommodates the Arriflex camera with either 200-ft. or 400-ft. magazines.

An extension-eyepiece in the blimp provides through-the-lens viewing of the scene as it is being photographed. Easy access for threading and changing magazines is another important feature.

Data sheet and prices are available by writing manufacturer direct.

OPTICAL EFFECTS CHART—Ray Mercer & Company, 4211 Normal Ave., Hollywood 29, California, is making available free of charge to producers of 16mm and 35mm motion pictures, a comprehensive chart illustrating and describing the full range of optical effects which the company makes available through its laboratory.

Chart makes it easy for film producers to select the type of effect most suitable to their film and shows the wide range of wipe effects, lap dissolves, etc., available. Chart also includes data on film and frame count, and film footage in terms of minutes and seconds.

Requests should be sent to above address.

KELLY CINE CALCULATOR—Florman & Babb, 70 West 45th St., New York, N.Y., announce they have been appointed U.S. distributor of the Kelly Cine Calculator, a disc-type slide-rule for cinematographers, which provides at a glance such information as hyperfocal distances, travel per second in both meters and feet, an aperture scale in thirds of stops, filter factor scale—in short, most of the important data normally found in photographic handbooks. Calculator is pocket size, durable. Price and further data is available from the distributor.

PRC PHOTOCELLS—Owners of Norwood, Weston and General Electric exposure meters may now use their meters to read indoor and outdoor exposure values using a single film speed index number instead of two (for outdoor and tungsten) as in the past. By replacing present photocell of meter with a new PRC Photocell, the same film speed may be used whether you are shooting indoors or out.

PRC replacement photocells are presently available in limited quantity to professional cinematographers from Photo Research Corp., 127 West Alameda Ave., Burbank, Calif.

MICROFILM PRINTER—Motion Picture Printing Equipment Company, 8136 No. Lawndale Ave., Skokie, Ill., announces the Micro Printer, a new microfilm printer featuring a positive, slip-proof film drive that eliminates distortion, resulting in sharper definition. Printer accommodates both 16mm and 35mm film, and only 3 minutes are required to make the changeover. Guide rollers are chemical-resistant and will not produce static electricity.

Full description and price may be had by writing the manufacturer.

HIGH-INTENSITY LIGHT—Huggins Laboratories, Menlo Park, Calif., announce a new, simplified high-intensity mercury arc lamp for high-speed and stroboscopic photography, optical apparatus, and for any procedures requiring unusual brilliance in either the visible or ultra-violet light spectrum.

Lamp is provided with water jacket for cooling and operation can be from (Continued on Page 57)
world’s toughest picture problems invited!

Today, the famous Mitchell 16mm and 35mm Cameras are being used in increasing numbers in every part of the world. Pioneered by Mitchell, masterful engineering and quality workmanship has produced these flawless, precision-built motion picture cameras. Every sturdy, proven Mitchell part... and versatile accessory... is adjustable to the most extreme and difficult photographic conditions the world over.

*85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell*
Make YOUR productions EVEN BETTER productions with Ansco's Color Process!

Could your last color picture have been made an even better picture by adding these qualities?

TRUER COLOR
BETTER SCREEN STEADINESS
FINER GRAIN
SHARPER DEFINITION
GREATER BRILLIANCE AND DEPTH

Then it’s time you discovered that these characteristics are the built-in advantages of using the amazing new Ansco Negative-Positive Color Process!

Yes, you get them all with Ansco—plus higher emulsion speed, wider latitude, and greatly increased production flexibility. Ask your Ansco representative for full details—then make your next color picture a better one with Ansco Negative-Positive Color.

Ansco NEW YORK HOLLYWOOD CHICAGO BINGHAMTON

A Division of General Aniline & Film Corporation. "From Research to Reality."
WHAT'S NEW

(Continued from Page 55)

AC, DC, single-flash or strobo power supply. The lamp is available with arc widths of: 1, 1 1/4, and 1 1/2 mm. Approximate power inputs range between 1 and 2 kW.; brilliance from 40,000 to 90,000 per square meter.

MICRO-DISC RECORDER—Audio & Video Products Corp., 730 Fifth Ave., New York 19, N.Y., announces the new portable “Wagner-16” Micro-disc Recorder affording recording and playback of a full hour of speech or music on a single unbreakable vinylite disc only 4 3/4" in diameter. One disc affords 30 minutes of program material on each side. It is ideal for recording sound, dialogue, etc., for home movie films.

Recording head, amplifier and power supply, playback pickup and loudspeaker are contained in a single portable carrying case.

Price of unit is $295.00. Package of 12 double-faced recording discs is $2.50.

FILM EDITOR—Editola Corporation, 130 West 46th St., New York 36, N.Y., announces the Editola, a combined film-editing and preview unit for 35mm and 16mm film production. Built in desk form, about the size of an ordinary office desk, unit features a centralized upright viewing screen 7" x 9" affording several people the convenience of viewing the projected picture.

Film reels are mounted flat, in horizontal position. A prism is utilized in the optical projection system, eliminating intermittent sprocket movement.

Combined picture and sound track, separate picture or sound track, or picture or sound track alone may be run. Forward and reverse action of films is controlled by foot pedal, permits synchronizing while both films are running. Built-in punches afford quick and simple marking of films or sound track exactly on frames projected.

Equipment is available on lease.

AURICON 16 mm Sound-On-Film

THE CAMERA THAT HEARS WHAT IT SEES!

CINE-VOICE

Photograph a sound track along one edge of your picture film with the Auricon "Cine-Voice" 16mm Camera. Same film cost as old-fashioned silent movies! Play back your own talking pictures on any make of 16mm sound projector. Also used for Television film Newsreels, Commercials, etc. Write for free illustrated "Cine-Voice" Folder.

$695.00
With 30 day money back Guarantee

AURICON-PRO

* 200 ft. film capacity for 5 1/2 minutes of continuous sound-on-film.
* Self-blimped for quiet studio operation.
* Synchronous motor for single or double system sound-recording work.
* Studio finder shows large upright image.
* $1310 (and up) with 30 day money back guarantee.

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Write today for Free Auricon Camera Catalog

SUPER-1200

* Two independent Finder Systems plus instant Ground-Glass focusing through the Camera lens.
* Self-Blimped for quiet Studio operation.
* 1200 foot film capacity for 33 minutes of continuous recording.
* Variable Shutter for fades or exposure control.
* $4315.65 complete for 16mm sound-on-film... lenses additional. Also available without sound for $3977.95.

MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931
Hollywood Bulletin Board

CRITICAL EYES of Karl Freund, Charles Rosher, George Mitchell, and MGM-actor Keenan Wynn examine the new Arriflex 16mm camera which was demonstrated before members of the American Society of Cinematographers at December meeting of Society in Hollywood.

Directors of photography in the Hollywood motion picture studios, in a preliminary balloting, have selected ten black-and-white and ten color productions of 1951 as candidate entries for Academy Award nominations for photographic achievement.

Nominating ballots are now in hands of the directors of photography who will vote to select the five films in each class as this year's award nominees. Result of nomination balloting will be announced in the national press on February 12.

The twenty candidate-films and the directors of photography who filmed them are as follows:

COLOR PRODUCTIONS


BLACK-AND-WHITE PRODUCTIONS


As it did last year, Metro-Goldwyn-Mayer studio heads the field—this year with a total of eight entries. Paramount and Fox each have three, and RKO and Warner Brothers two each. Columbia has one entry. Universal again this year is conspicuous by its absence in the representation. Only one foreign film is an entrant this year—"Tales Of Hoffman" produced in England.

Result of voting on the ballots now in the mail will narrow the above list down to five color and five black-and-white productions. These then become the official award nominees, and will be announced in the March issue of American Cinematographer.

Academy Awards presentation ceremonies will take place the evening of March 20th at the Hollywood RKO-Pantages Theatre.

Six A.S.C. Members draw screen credits for photography in Cecil B. DeMille's "The Greatest Show On Earth"—George Barnes, director of photography; Peverell Marley and Wallace Kelley, for additional photography; and Gordon Jennings, Paul Lerpae, and Devereaux Jennings for special photographic effects.

Joseph Ruttenberg, A.S.C., this month begins his 45th year as a director of photography. He's currently shooting "Because You're Mine," Mario Lanza starrer, at MGM.

Charles Herbert, A.S.C., head of Western Ways, photographic organization in Tucson, Arizona, is looking for a good portrait photographer to take over this section of his studio in downtown business section of Tucson.

Karl Struss, A.S.C., is winding up a very successful assignment as director of photography of "Limelight." Charles Chaplin's latest film venture. Struss previously photographed Chaplin's "The Great Dictator."

Recently organized Philippine Society of Cinematographers now has 53 members, including Higinio J. Fallorina, William Jansen, and Ricardo Marcelino who are also members of the American Society of Cinematographers. Fallorina is president of the P.S.C.

"The Wild North," MGM's initial feature in the new Ansco Color negative-positive process, easily justifies the many months the studio devoted to adapting Ansco Color to feature film production. Robert Surtees directed the photography.
Today's demand for faster, better, more dependable processing presents an excellent opportunity for local laboratories in every community. Houston-Fearless equipment, standard of the motion picture industry in Hollywood and throughout the world for 20 years, makes it possible for you to offer processing service in your locality that is days and weeks ahead of "out of town" schedules. Houston-Fearless processing machines handle the entire job from camera to screen with each step under fully automatic control. Quality of work is unsurpassed. Take advantage of the need for this service in your community. Write for information on your requirements.

- DEVELOPING MACHINES • PRINTERS • COLOR DEVELOPERS
- COLOR PRINTERS • CRANES • DOLLIES • TRIPods • FRICTION HEADS

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"World's largest manufacturer of motion picture processing equipment"
FILM AND ITS TECHNIQUES, by Raymond Spottiswoode, published by the University of California Press, 1951. $7.50.

Mr. Spottiswoode has written a very comprehensive volume on the mechanics of motion picture making, one which should prove of the greatest value to the film technician or advanced student of cinema technique.

While the book jacket advises that the contents are presented in a manner that is “completely acceptable to the professional film maker, yet thoroughly understandable to the amateur cinematographer,” it is possible that the latter half of this statement is a bit optimistic. Actually, the book is written in a highly technical fashion (as befits a highly technical subject) and it would take an amateur cinematographer well out of the “home movies” class to appreciate and understand its contents.

For the serious advanced amateur who perhaps looks to the motion picture medium with a professional gleam in his eye, however, the book is a treasury of information on the various units of equipment and processes involved in producing a motion picture of professional quality. In acquainting the reader with the tools of the cinema trade and their use, the author purposely sidesteps such creative topics as scripting, directing and the constructing phases of editing. This is a book dedicated to the “mechanic” behind the cinema scenes, whose efforts make it possible for the ideas of the aesthetic production minds to actually end up on film.

Mr. Spottiswoode writes in a careful and thoroughly objective style and from the point of view of one who has carefully observed the various processes and functions of which he writes. He explains this detached perspective in his foreword by saying: “Film production . . . has become so specialized that it is difficult for a writer to gain enough practice in all its many branches to infuse such a book as this with the warmth and vividness of personal experience.” Nevertheless, the author does a fine job of reporting the techniques of the top technicians whom he has had an opportunity to observe first as Producer and then as Technical Supervisor at the National Film Board of Canada.


This comprehensive reference book for the motion picture worker or student is published in the handbook format for rapid consultation. Compiled by a British technician and printed in England, the book is similar to the A.S.C. Handbook in conception, but is conceived more as a valuable reference to be read and studied at leisure than as a data book for instant reference on the set.

The book contains much detailed information on cine equipment and processes, both foreign and American, and is well illustrated with still photographs of various cameras, lighting units and projectors.

Mr. Bomback, one of Britain’s outstanding technical experts in the motion picture industry, formerly associated with the Kodak Research Laboratories, has compiled a fund of material dealing with a great many phases of motion picture technique. His main subject headings include Modern Cine Cameras, Cine Lens Data, Film Footage Tables, High Speed Cameras, Laboratory Practice, Filters, Studio Lighting, Color Photography, Exposure Meters, Sound Recording Systems, Developers and Processing, Duplicating Systems, Modern Projectors, and a list of British Standards on Cinematography.

The book also includes valuable tables listing Hyperfocal Distances, Fields of View of Cine Lenses, and Frame/Footage Calculators.

The Cine Data Book is concisely written and contains much useful information. It should be a most valuable addition to the library of the motion picture technician or serious student of cinema technique.

The book does a complete job of explaining the mechanics of the camera, the cutting room, the laboratory, sound and special effects. It is a book that should be read and re-read many times by the serious student of the cinema, as it contains more technical information than can possibly be absorbed in one or two readings. It should also have a prominent place as a reference work in every technical library.

The book is well-illustrated by fine drawings supplementing the text.


This revised and enlarged second edition of the work originally published in (Continued on Page 88)
This remarkable photo shows the Maurer 16mm. Professional Camera shooting a scene at twenty degrees below zero... one hundred and fifty feet down in a marble quarry!

But that Maurer is getting perfect pictures... it was designed not to "freeze up." The Maurer 16's dependability under all conditions is only one of many reasons why the nation's top professionals choose this fine camera for all phases of professional motion picture production.

Hair-line accuracy... precise high-power focusing... the 235° dissolving shutter... and many special exclusive features all add up to finer motion pictures with the Maurer 16mm. Top results mean economical results too!

Write us for more information about how the Maurer 16mm. can answer your motion picture production problems.

maurer means finer motion pictures!

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37-01 31st Street, Long Island City 1, New York
1107 South Robertson Blvd., Los Angeles 35, California
"IT WAS OUR AIM to give this picture all the blunt realism of a U. S. Army Signal Corps documentary," said cinematographer Frank Planer. "That is why there are in this film no stock shots, no miniatures, and no special-effects photography."

"Decision Before Dawn"

. . . photographed entirely on location in Germany, in actual locales.

By HERB A. LIGHTMAN

In filming "Decision Before Dawn" for 20th Century-Fox, director of photography Frank Planer, A.S.C., was faced with some of the most challenging problems to confront a cameraman.

Here was a dynamic theme set against the rapidly changing dramatic background of Germany under siege—a story to be filmed entirely on location in actual locales, without the usual conveniences and technical facilities of the studio. It was to be a hard-hitting, man's story—devoid of beauty and glamor—accenting life, action and death.

It is all of that and more—a dramatically absorbing photoplay, featuring some of the most brilliant photography of this or any year.

"Decision Before Dawn" is the dramatic and little-known story of a small band of captured German soldiers who agreed to spy for the American Army behind enemy lines during World War II. The top-notch spy thriller was adapted from George Howe's $15,000 Christopher Award novel "Call It Treason," which is based on a series of true incidents that occurred in the wartime Intelligence Unit with which Howe served.

The film details the adventures of a young German soldier who loves his country, but decides that he can best help Germany by helping to defeat it's regime. Agreeing to spy for the Americans, he is parachuted behind German lines. Contact with his own people under siege confirms his decision. While the Gestapo closes in on him, he continues to do his job, sacrificing himself in his own way for his country.

The making of "Decision Before Dawn" represented one of the most difficult motion picture productions ever undertaken. To recreate the background vista of war-battered Germany of five years earlier, producer-director Anatole Litvak and associate producer Frank McCarthy spent months in early 1949 roaming Western Germany looking for locations to be used in the film. As a result of their search, the studio unit traveled more than 2,000 miles throughout the French and American zones of occupation to film sequences in 16 cities and hamlets. Locations, shot in the 79 shooting days, included: Munich, Nu-

The 800-year-old Eberbach cloister, the fabulous Bavarian palace at Schleissheim, the quaint walled city of Rothenburg, the medieval old city of Nuremberg, are but a few of the unusual settings for the film’s scenes.

One of the most difficult problems was to procure enough German guns, tanks and other military vehicles to equip the Wehrmacht in the film. There were none inside Western Germany, the Americans had none, and it might have led to misunderstandings had they sought it from the Russians.

After weeks of vain searching, producer Frank McCarthy located a virtual arsenal of captured German equipment in France. With the permission of high French military authorities, twenty truckloads of material, including antiaircraft guns, more than 75,000 Mausers, and other equipment including toothbrushes, boots, field telephones and mess kits, were shipped to the movie unit in Munich. The French insisted that their own officers and men go along to guard the weapons.

But equally difficult for the producers was the problem of procuring authentic costumes. To obtain these, the unit advertised in German newspapers and, since under occupation law the wearing but not possessing of costumes was forbidden, more than 1500 former German officers and men who had retained their uniforms, offered to sell them. The only type of uniform not offered was that of the black SS, since possession would have been a virtual admission of membership in an organization since ruled “war criminal” by the Nuremberg War Crimes Tribunals. So the unit wardrobe man had the SS uniforms made up from drawings. But the other 600 uniforms, representing 35 types of Nazi and German military organizations, is believed to represent the largest wardrobe and most complete collection today in the world of wartime German uniforms. The heavy weapons, which include lethal 88mm guns, Vierling four-barrel antiaircraft guns, anti-tank guns, half tracks, machine guns, and rifles, represented every known piece of authentic German military equipment in disarmed Western Germany at a time that talk of rearming the Bonn Republic was widely circulated.

Although the French government offered to loan the unit German Tiger tanks for the film, no insurance company could be found which would insure the old vehicles. So the ingenious McCarthy arranged to have American light and medium tanks painted in camouflage markings, given mocked-up German tank profiles, and driven backwards with guns reversed by GI drivers for the scenes.

To transport the units and the sound, camera, costume, prop, and grip equipment, as well as personnel, the company traveled through Western Germany in a caravan of more than 40 heavy trucks, trailers, and busses.

Frank Planer’s photography manages to capture the full scope of this sweeping narrative. Commenting on the adverse conditions under which the film was shot, he explains: “We didn’t have most of the things we were used to in the studio, so we were forced to rely on our ingenuity.”

Lighting proved to be a major headache, since many of the interiors (such as the convent used as a major locale) covered vast areas. A great deal of the filming was done at night, which meant that great stretches of street or countryside had to be illuminated. There would not have been enough lights in Germany to achieve this effect by conventional means, but Planer managed it through skillful placement of light units to illuminate important planes of composition. He coupled this with the technique of latensification, in which the effective

(Continued on Page 83)
What About The Cost?

One of the producer's prime considerations after the script is completed and the budget is being prepared is the cost of actually shooting the picture.

By ROBERT SISK

In the previous articles, an idea has progressed through the story and screenplay stage until now it is in such a shape that we are ready to commit it to celluloid.

This really is something to have been achieved in such a short time, and though I, who have worked in studios for many years, am dazzled by such speed, I shall try to conceal my amazement and take you through the processes which now face us before we can unloose the cameras.

Somewhere in the previous articles when the producer and writer were gaining confidence in their story and its progress in screenplay form, they began thinking about a director—a suitable director. Without belaboring an obvious point, they would not want a director skilled in handling action if their project was a drawing room comedy. Since any good picture is based on conflicting relationships of character they would seek a man they judged to be able to do credit to their story and who would be in harmony with their aims. Once they had enlisted the right man he would be pulled into the heart of the very active processes which precede actual filming. His minute evaluation of the script would be solicited; his criticisms appraised and discussed.

It should be understood that there must be a basic harmony at this point. The screenplay—the blueprint for all that follows—is by now to everyone's general taste and liking and that many-tentacled entity called the Front Office is beginning to let its influence be felt. Since major film producing companies must, in kinship with a famous and muddy stream in mid-America, keep rollin' along, there is the pressure to get the picture on the stages. This means the enlistment of all studio departments in the general aim.

Perhaps the screenplay has been written with certain players in mind. Then that part of the job is provided for. But there still remains the other casting to be accomplished. Conferences, conferences, and more conferences over this. Because producers and directors try to cast each part to a nicety, because there is always a big effort to use new people, it may be that the director's time is occupied with film tests of many of these people. There will be tests, too, of wardrobe, much preparation of settings and much scouting of locations. A location is someplace away from the studio and it can be many miles away. I have had companies in the Cascade Mountains of Washington, the Rocky Mountains of Colorado, in beauteous Monterey and at the Naval Academy in Annapolis.

(Continued on Page 85)
Technicolor Cameras Now Ride The RO Crane

MGM's versatile sound stage crane improved to accommodate unblimped Technicolor camera; permits loading and inspection of camera without removing it from crane.

By ARTHUR ROWAN

When Metro-Goldwyn-Mayer studio developed and put into use its RO camera crane in 1939, most of the studio's productions then were filmed in black and white, with Mitchell cameras. The use of this crane with the larger Technicolor cameras had not been considered.

At the time the RO crane was introduced, it was considered the foremost development of its kind, affording use of the camera at ground level, or elevating it during shooting from floor level to a maximum height of 16 feet, and at the same time giving the camera lateral movement on the sound stage. It remains the most popular and versatile mobile camera mount in use at M-G-M. The crane, having a boom 9 feet in length, is mounted on a four-wheel "rotambulator," patterned after one of M-G-M's first early-day camera dollies. Having the double feature of rotating dolly and rotating camera base (for panning shots), the term "Ro" for "rotating" was naturally applied to the crane. Today it is still known as the "Ro-crane"—or more commonly the RO Crane.

Over the years, many improvements have been made in the RO Crane by its originator and designer, John Arnold, A.S.C., but none, perhaps, as important as that recently completed, which now makes it possible to use Technicolor cameras (unblimped) on the crane with all the freedom enjoyed when a Mitchell camera is used.

(Continued on Page 82)
Stereoscopic Motion Pictures

Periodically, some powerful new innovation develops to change the course and fortune of Hollywood motion pictures. Will stereo become the next major change in entertainment films?

By J. A. Norling

NEVER BEFORE has the subject of stereoscopic motion pictures received such serious attention as is presently in evidence, both here and abroad. Stereo movies are freely predicted as the next big development in motion picture entertainment. The major problem yet to be hurdled seems to be how to simplify their presentation in existing theatres and in such a manner as to gain general public acceptance. Beginning on this page is the first of a two-part comprehensive summary of the present status of stereo movies by a man who has pioneered in their development and who is considered an outstanding authority on the art—Mr. J. A. Norling, president of Loucks & Norling Studios, Inc., New York City. The study appeared in a recent issue of International Projectionist, and is reprinted here by permission. Elsewhere in this issue will be found an article dealing with a new application of stereo to 16mm home movies.—EDITOR

FRONT VIEW of the Norling three-dimensional motion picture camera, showing variable inter-axial optical system in front of the two lenses. This stereoscopic camera records images on two separate negatives, permits use of short-focus lenses.

REAR VIEW of the Norling camera showing "racked-over" position for lining up a scene through the binocular viewfinder. Camera contains built-in spirit level and footage counter.

THAT THE MOTION PICTURE industry could use something to combat television's capture of more and more of the theatre audience is undeniable. Stereo movies might well induce people to return to their former favorite amusement. But the return is likely to come about in the mass only if the film theatre gives them something they can't get on a 17-inch TV tube, namely the ultimate in photographic realism, the stereoscopic movie in full color, with all dramatic possibilities that are only waiting to be appreciated.

The enthusiastic public reception given some earlier stereo movies and the dollar profits from these movies are a matter of record. Newer, better stereo techniques are now available, and the reason for introducing them was never more pressing. Will the motion picture industry take action?

One of the early and noteworthy theatrical exhibitions of stereoscopic motion pictures occurred in 1924, when J. F. Leventhal produced a few "shorts" utilizing the anaglyph process. There followed an eleven-year lull in the use of stereoscopic films.

Then in 1935, Loucks & Norling Studios and Mr. Leventhal jointly produced a series of short films again employing the anaglyph principle, this time in talking picture form. These films, which were called "Audioscopiks," were released by Loews, Inc. and proved to be some of the most successful short subjects ever issued, winning not only domestic acceptance but an unprecedented play in the foreign field, notably in France, Spain and Great Britain.

That their success should have indicated further pursuit of the anaglyph process seems logical. But the producers had, from the beginning, realized the inherent limitations of the process and concluded that films exhibited by that process would only be adequate as novelties and would never be tolerated for full-length feature releases.

This conclusion was arrived at by a recognition of the visual "insult" resulting from the projection of one color to one eye and its complementary to the other. This sort of delivery of images, one color to one eye, another to its mate, produces "retinal rivalry" and brings on physiological dis-

(Continued on Page 78)
THE IDEAL COMBINATION —

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Good sets or backgrounds
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EASTMAN FILMS —

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The switch from feature to TV film photography entailed no great departure from standard cinematographic procedures for Benjamin Kline, who photographs the weekly "Fireside Theatre" series for Frank Wisbar.

By CHARLES LORING

In filming "Fireside Theatre" for Frank Wisbar Productions and its client, Proctor and Gamble, director of photography Benjamin H. Kline, A.S.C., has set a standard of technical excellence in cinematography for the video medium. Its photographic quality is one of the several reasons why the show has won many top awards in its program classification.

The story of "Fireside" begins at the Eagle-Lion Studios in Hollywood, where Frank Wisbar Productions is busily engaged in turning out forty 26-minute dramas a year for "Fireside." The shooting schedule of each of these is 3 days.

The films are shot in groups of 6 or 7. After each three-week spell of shooting, there is a production layoff of 4 to 5 weeks to allow for scripting and technical preparation of the next series.

When you walk onto a "Fireside" set you are impressed with the ease and smoothness that characterizes production. There is a lot of good-natured banter from an unusually cheerful crew, but no confusion, no delay, and yet none of the frantic hurry up tension one finds on many sets in TV production. It is not enough to say that this efficiency is solely the result of detailed pre-planning and comprehensive production conferences. There's an added ingredient, and it is necessary to look behind the scenes to find it.

Far from functioning as a colossal Hollywood studio, the Wisbar organization has an atmosphere almost as folksy as a country store—and it is interesting to note that this attitude has been achieved strictly according to plan. The company had its humble beginnings three years ago when it was set up by Frank Wisbar. Cinematographer Benjamin Kline was the first technician to become affiliated in an executive capacity. A few other key men were added, and Fireside was off to a happy start. We call it a "happy" start because it was decided from the very first that this operation would be entirely different in concept from major studio production. There would be no front office, no yes-men, no brass hats, no oppressive "bossism," and above all, none of the peculiar brand of fear which prevails on many lots that makes employees blindly agree with their superiors, even though they might privately hold a more important or more creative opinion.

In Fireside Theatre everyone's opinions are important, and each technician is encouraged to speak his mind openly and honestly without fear of resentment.
or retribution from higher political sources. In explaining this, Wishar said, “Our technicians were all hired because they are top men in their respective fields. They know their business, and their suggestions are valuable. We respect their intelligence and their right to express themselves. They must have that right, without fear and without censure—because only in that way can each man consider Fireside his program—and cease to think of himself as an employee. As a result, we have evolved a true co-operative, based on open-discussion, friendship, and mutual respect.

From the very beginning of Fireside Theatre, Benjamin Kline has been the technical key man of the organization. He is more than director of photography for the series. Actually, he is in complete charge of every visual phase of production—and this includes art direction, costuming, set decoration and make-up.

Kline started his cinema career at the old Fox Studios in 1911, was top cameraman for Tom Mix during that sage brush hero’s hey-day, spent 16 years as director of photography at Columbia Studios, and was affiliated with Sol Wurtzel for several years before joining Fireside.

A pioneer in shooting films for television, Kline went through several logical stages of progress before arriving at the highly successful photographic style which he now uses. He has adapted his lighting technique to the limited gray scale of the television tube, but has gotten completely away from the flat-lighting which once was regarded as standard technique. His lighting is now well-rounded, without hitting extremes in contrast. As a result, players are photographed with a third-dimensional quality which was very effective, and yet their features are not lost in deep shadow.

Asked to describe his technique, Kline said, “We have no magic formulas, no gimmicks, no top secret tricks. In departing from straight theatre-screen photographic technique we’ve had to make certain adjustments in lighting, in composition and in camera movement; but these adaptations are the result of a very thorough study of the technical requirements of the television tube. I work very closely with our film laboratories and with NBC engineers to make sure we are meeting those requirements.”

There still exists a great deal of controversy as to how films should be printed for the best rendition on TV. Some cinematographers demand prints exposed two printing lights higher than normal. Kline is of the opinion that this tends to wash out flesh tones and other intermediate greys, resulting in an unpleasant contrast. Generally speaking, he

(Continued on Page 77)
SPECTRA INSTRUMENTS

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Stereoscopic Movies
With Any 16mm Camera

Simple, quickly-attached 3rd-dimension converters for camera and projector now afford the amateur the first practical stereo movies; make unnecessary any alterations to equipment.

By JOHN FORBES

Cine amateurs having 16mm cameras now can make their movies in third-dimension with a simple stereoscopic attachment that costs less than an extra camera lens. Stereo movies, long in the experimental stage, are now a practical thing for the movie amateur—even before they are commercially possible for theatres. Stereo movies are one of two recent major developments destined to rekindle interest in home movies among old time cine hobbyists, and also bring many new fans into the fold. The other development is magnetic sound; but stereo is much more exciting, costs less for the added equipment.

First to bring out a practical and simple three-dimension stereo attachment for cine cameras and projectors is The Nord Company of Minneapolis. The first of these devices, the Nord 3rd-dimension Camera Converter, is mounted by means of a bracket which attaches to the tripod-socket on the camera, and which holds it rigidly in place in front of the regular camera lens. The camera stereo unit will operate satisfactorily with any make of one-inch lens—the standard lens normally supplied with all 16mm cine cameras.

Since the camera unit does not attach to the lens itself there is no problem of adapters nor does the speed of the lens or size of the barrel affect the use or mounting of the unit.

The bracket is a machined aluminum casting, and is universally adjustable so that with the aid of a screw driver it can be adjusted to suit any make of equipment. In fact, the only part of the entire kit which is “special” is a small clip used to guide the side of the camera so that the lens always points directly into the optical head.

This new camera unit should not be confused with any of the devices tried in the past, which used mirrors to separate the images to form a stereo pair. The principles employed are quite new and involve several optical wedges which are achromatized.

The camera lens, looking through this optical head at a scene, records two images which correspond to the right eye and left eye views required for a true and accurate 3rd dimension movie. These twin-picture images are recorded on the film side by side in the space normally occupied by a standard single-frame image.

Since the entire stereo unit attaches to the camera in the same way that the camera would be mounted on a tripod, it can readily be attached or detached as occasion demands and there is no machine work or alteration required on the camera itself. It can be used with the camera either hand-held or mounted on a tripod. With the unit in place stereo movies are made in the same way that has always been employed for the older form of flat movies. In fact, the only difference is that you increase exposure by \( \frac{2}{3} \) stop, just as if you were using a

(Continued on Page 76)
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ateur Motion Picture Competition. I plan to
enter an 8mm.____16mm.____ film, length
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Name ________________________________
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RULES

- Entries must be wholly amateur-produced.
- All sound films must be wholly amateur-recorded, regardless of sound medium used.
- Film length: maximum of 800 feet for 16mm silent entries; 16mm S.O.F. entries, 1200 feet; 8mm entries, 400 feet.
- Sound medium (discs, tape, wire) must accompany film in same package.
- Entrants must pay transportation on films and sound records both ways.
- Both reels and reel containers, and containers of sound medium must bear labels indicating name and address of entrant.
- Entry blank should be submitted in advance.
EVER SINCE I acquired my Auricon Pro 16mm sound camera, I’ve wanted to produce a short horror film in sound and color—an ambition that was only recently realized, thanks to a happy set of circumstances. I am a member of The Cinema Associates, a Los Angeles amateur cine group, which has been specializing in amateur scenario films for a number of years. None of us are professionals, so far as the movie or theatrical professions go, so our films—mostly the slapstick type, built around simple, humorous situations, suffered somewhat from lack of polished dialogue and professional acting. Like most amateur movie makers, we were well aware that we could greatly improve the quality of our films if we could just get a little professional results from our players—impossible, of course, without professional training.

A happy turn in events occurred when, one evening, I chanced to see a play in my neighborhood community playhouse. The skit, “Two Swans”; the actors, local people with some professional training. But what impressed me more, perhaps, even than the story and the players’ performances was the stage setting. It was well designed but simply made to represent the interior of an old abandoned lighthouse—a perfect setting for a horror film. Indeed, I saw in it the ideal setting for the film story I had been planning to make.

After the performance, I arranged to meet Frank Sinclair, who designed the set for the Gramercy Park Community Playhouse, told him of the movie idea I had in mind and suggested that we might get together and film it at the playhouse, using his set and his professional players.

He was at once receptive. He thought it would not only improve the quality of our film, but also provide screen tests for his community players. He agreed to direct the film. So, following some helpful suggestions from Sinclair, I wrote the following screenplay, which has only seven lines of dialog, the rest sound effects:

“GUEST TO MURDER”

1. L.S. Fade In (on platform—front of stage) Interior of old English Inn. There is no fire in the fireplace. It is a stormy night. Lightning flashes through the windows, claps of thunder are heard and the wind howls mournfully, via sound effect records. Seated at the table, facing the entrance (at a slight angle) is an old hag (wife of the innkeeper), sharpening (Continued on Page 88)
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16MM STEREO MOVIES
(Continued from Page 72)

filter. This unit may be used with black and white or color film, and the processing is unaffected.

Projection of the stereo films is made possible by the Nord Projector Converter. This is an optical unit housed in a metal case and supported on an independent base, so that it is unnecessary to attach the unit to the projector at all.

In use, the projection unit is placed on the same table with the 16mm projector at a distance of approximately one foot ahead of the projection lens. The beam of light passes through this unit on its way to the screen. The exact position of the unit is not particularly critical. The projection unit does two things. It polarizes the light independently for the right- and left-hand images and at the same time it overlaps these images in correct registration. Two simple adjustments are provided so that by turning two knobs the images can be aligned independently in both the vertical and horizontal positions. Ordinarily once these adjustments are made for a particular projector they need not be repeated unless, of course, the settings are disturbed between showings.

A unique feature of the Nord 3rd-dimension system is a test him which is supplied with the projection kit. This film has a circle and a cross photographed thereon and positioned so that it is only necessary to manipulate the knobs until the cross as seen on the projection screen is centered on the circle. Since these two images are the same size this is very easily done; it is impossible to make any mistakes since the him cannot be incorrectly threaded. The test film will operate equally well whether run through the projector right side up or upside down and regardless of whether the emulsion position is toward the screen or toward the light.

Pictures made with the Nord 3rd-dimension attachment must be projected upon a special screen, which is included in the kit. The members of the audience view the pictures through Polaroid spectacles, also supplied.

Movies made by this system have a terrific impact that is impossible to describe adequately. The results are so different from ordinary movies that it is not like looking at a picture at all. The effect is more like looking at a real scene out of a window.

While the stereo depth is completely satisfactory, in all fairness there are two limitations which must be mentioned. Since the standard 16mm frame is divided in half by the dual images, this requires a screen new and different in
shape. As mentioned before, this is most accurately described as a window shape, vertical instead of horizontal. It is rather remarkable that the shape of this window is not particularly noticeable, when pictures are screened, any more than we notice the shape of the window that we look through in an actual scene in real life. Perhaps this is because the window does not normally lie in the same plane as the subject.

There is another problem which has been simply overcome. On either side of the 3rd-dimension movie there is a "ghost image," which unless eliminated would prove very distracting, particularly since we are dealing with moving objects; however, this image is very simply overcome by adjusting the distance between the projector and the screen so that margins of the picture fall on the black border at the sides of the screen.

The complete Nord 3rd-dimension movies kit includes the camera unit, the bracket with whatever clip is required for your particular camera, the projection unit with supporting base, the test film, two pair of cardboard type Polaroid glasses and a special screen. Price is $83.50. The units are manufactured by the Nord Company, 254 First Avenue North, Minneapolis, Minnesota, and soon will be available through camera stores and photo dealers throughout the U.S.

NO FORMULAS, NO GIMMICKS

(Continued from Page 69)

prefers a normally timed print—or if anything, one that is slightly denser than normal. He emphasizes, however, that the ideal result is not merely a matter of printing. The lighting on the set must be gauged to complement the style of printing. "Fireside" is lighted to be printed slightly on the dense side.

Kline says that it is necessary to be careful in photographing scenes to be used for montage or superimposition. These should not be too complicated, and there should be enough "solid" substance in the one scene so that the detail of the other will show up clearly against it.

"We must exercise certain care in filming night scenes, too," Kline pointed out. "In many television studios, when the video technician or 'shader' sees a night scene on the monitor screen, he's prone automatically to pour more light onto it. The result on the home receivers is a washed-out grey. For this reason, we make sure there are enough highlights in the scene, so that the monitor at the shading control will be forced to hold the general level down."

A standard procedure on the Fireside set, and one which would give apoplexy

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February, 1952 • American Cinematographer • 77
to most cinematographers, is the fact that exposure meters are not used in lighting. Light balance is achieved solely through a combination of eye, ground glass and viewing glass. This simplified technique is possible for Kline because in the several years that he has been shooting films for TV, he has developed a sure feel for the medium and its lighting requirements.

"I think of set dressing, costumes, and the players themselves as masses of composition," Kline explained, "and I try to compose them in arrangements that are pleasing to the eye, and effective from the dramatic standpoint, as well. I always try to include a substantial white area in each scene, because this helps control the face tones. If a white shirt or dress is the whitest thing in the scene, the other values are scaled down accordingly, and there is no danger of faces becoming washed out."

In explaining one of his reasons for not using an exposure meter, Kline observes that a single source light will give a certain reading from, let us say, a front angle—but that reading will be entirely different when the camera adopts a different angle. His success in operating without the standard technical aid, is attested by the consistency of density evident in uncorrected prints from the original footage.

Kline has complete rein in production, and he has standardized lighting and make-up procedures to give the best possible results on film. He uses camera movement with restraint, "To make the audience unconscious of the movement itself, but more conscious of the players," Kline said.

Kline is considered by many to be an outstanding authority on photography of television films, and it is interesting to note that during preparation periods between shooting schedules for Wisbar Productions he has aided in launching several other top film shows in the new medium. He photographed the first six "Racket Squad" TV shows, the first six films of the "Amos 'N Andy" series, the first six "Rebound" features, and the first four of the "Screen Violets" series. Although Kline enjoys playing "godfather" to these new TV shows, he admits that his heart belongs mostly to "Fireside."

The production of "Fireside Theatre" TV films is under the direct supervision of producer-director Frank Wisbar, who is also the fountainhead of ideas from which spring plot ideas for a great majority of the scripts.

"One secret in making successful TV films, we have found, is having the courage to make last-minute script changes if it will benefit the production," Wisbar said. "It is these on-the-set changes and additions that give our scripts authenticity and spontaneity. We never hesitate to polish a script right on the sound stage as we are shooting."

Liaison between sponsor and the producer is maintained by ad agency representative Brewster Morgan. Having brought to Fireside his wealth of experience of many years of top radio program production, Morgan maintains that the key to successful TV films is giving video viewers programs that not only will hold their interest from start to finish, but make them tune in on the following week's program, and the next. A secret toward this end is the extensive use of closeups in all "Fireside" films.

In comparing the behavior of moviegoers with video viewers, Morgan said, "Motion picture theatres have what we call a 'captive' audience, which sits and gives it undivided attention to the screen. In the home, if video viewers do not like a show, they quickly flip the dial to another program. Our aim, therefore, is to keep sets tuned to 'Fireside Theatre.' One way we do this is through skillful photography that makes the story so interesting that viewers won't even hear the doorbell ring. In this, the shot that best holds attention is the closeup. That is why we use lots of them."

**STEREOSCOPIC MOTION PICTURES**

(Continued from Page 66)

... let us tell you how American Cinematographer can sell more of your products to advanced movie amateurs — the group that buys the most and uses the most amateur cine equipment and films!

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**AMERICAN CINEMATOGRAPHER**

The American Society of Cinematographers' Magazine of Motion Picture Photography

78 • American Cinematographer • February, 1952

The projected images are viewed with spectacles having windows of the same turbances that may induce nausea in some observers if they look at the anaglyph longer than a few minutes.

Since this process—the anaglyph—has played an important role in the advance of the stereoscopic art, it would be well to describe it here briefly. Its invention is credited to Ducos du Hauron, who applied it in 1895, although there is some evidence that its possibilities had been explored many years before that.

In one form, the anaglyph images are on two separate films. One member of the stereoscopic pair is projected through a filter of one color, the other through a filter having a color complementary to that of the first. In another form, the one that was used for "Audioscopiks," the anaglyph images are printed in complementary colors directly on film and projected in a standard projector without filters.

The projected images are viewed with spectacles having windows of the same
colors as the colors on the screen. Red-orange for the right eye filter and blue-green for the left are often used. The right-eye red-orange filter in the viewing spectacle renders the blue-green right-eye image in monochrome and the left-eye blue-green filter renders the red-orange left-eye image also in monochrome.

Since dyes and pigments hardly ever are capable of transmitting only the color they are supposed to transmit, there is rarely a complete “cutting” of one color; some of it always comes through so that part of the blue-green image which is supposed to be blocked by the blue-green spectacle filter leaks through, producing a “ghost” image. So, in reality, the one eye sees a part of the image intended for the other; the “part,” of course, being defined as a very dim, but still discernible remnant of the whole “other-eye” image.

Good picture quality has never characterized the colored anaglyph. This and other shortcomings make it eligible for discard as a practical system for motion picture features.

Since the introduction of Polaroid light-polarizing filters it is possible and practical to substitute these for the red and green filters of the original anaglyph process. Strictly speaking, the polarized light method may be defined as another form of the anaglyph. Actually, Polaroid Stereoscopy would be a good name for it. It was Dr. Edwin H. Land, head of Polaroid Corp., and his invention of the first practical and efficient synthetic polarizer which hastened the increasingly widespread use of the present satisfactory methods of stereoscopic projection.

The first large-scale public exhibition of a stereoscopic motion picture with excellent picture quality took place in 1939 at the New York World’s Fair. That year a black-and-white film was shown. The following year a similar subject was exhibited in Technicolor. More than five million people saw these films,* and they’re still talking about them. Some of the production and exhibition problems posed by these pictures are interesting to consider.

The camera assembly for the black-and-white picture consists of two Bell and Howell professional 35mm cameras mounted so that one was “upside down” in relation to the other. This was done so that the lenses could be brought close together.

Even with this arrangement, the interaxial was not ideal. It was fixed at 3½ inches, although calculations showed that some scenes actually required as close as 1½ inch interaxials. But no such camera was available then, nor was there time to have one built. However, a com-

---

* Produced by the writer.
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A complete set of matched lenses of different focal lengths effected a quite satisfactory compromise with the ideal.

The greater part of the picture was a sort of fantasy, showing the parts comprising a Plymouth car dancing around and assembling themselves. Their movements were in synchronism with music and required the use of "stop motion" photography, that is, "one frame-at-a-time" shooting.

But a substantial part of the film contained "live action" shots taken in the foundry and shops and along the assembly line. The narrator for the film was Major Bowes of Amateur Hour fame. He appeared in "live action" in one sequence in which he spoke. This was the first "live-action-live-dialogue" shot ever made in a stereoscopic presentation. It created some difficult problems since the cameras would not fit into any available studio "blimps." However, the sequence was shot without any parallax camera noises being recorded.

Since the Chrysler film was shot in a two-camera setup, and no special photographic and projection facilities for single-film handling was available, it was necessary to project with two projectors. A rather complex Selsyn motor drive was used for interlock, although a much simpler synchronization could have been attained by a straightforward mechanical linkage, such as we used for the Pennsylvania Railroad's stereoscopic movie display at the Golden Gate International Exposition in San Francisco in 1940.

A Technicolor film, using the stop-motion technique was our next stereo production. A unique filter attachment was arranged in front of the camera lenses. The filters were mounted on wheels which rotated together. Color balance was attained by making sectors having angular dimensions calculated to pass the quantity of light required for each color and as demanded by the sensitivity of the film.

The "A" (red) filter passed light to which the film was more sensitive than that passed by the "B" (green) and "C5" (blue) filters. Consequently, the red filter had the narrowest opening of all, and the "C5," to whose transmission the film was least sensitive, had the widest opening. The exposures were made by the alternate frame method of color separation. Three frames, one the red record, one the green, and one for blue, were made instead of one frame as in ordinary photography.

These separation negatives were used by Technicolor to make the printing matrices from which the dye imbibition prints were produced.

(To be continued next month)
THANK YOU, KINEVOX! We wish you continued success!

January 18, 1952

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Gentlemen:

We think you will be interested in knowing the results we have received from our advertising in American Cinematographer magazine. Beginning with our first modest ad two and a half years ago, response has been gratifying; the resultant sales of Kinevox synchronous magnetic film recorders set the foundation for our present expanding sales.

We now have Kinevox recorders in just about every country in the world except Russia. On my desk at this moment are equipment orders from Canada, New Zealand, Argentina, Singapore and Indonesia — not to mention the hundreds of inquiries and requests for our new catalog — all the result of our continuing program of advertising in your publication.

Incidentally, one of the first Kinevox recorders to be shipped abroad was used in Africa by Edgar W. Queery in producing the sound track for the sensational color motion picture "Latuko", now being premiered in Hollywood at the Paramount theatre. This same recorder still is giving excellent daily service.

The exceptional results we have obtained from advertising our Kinevox equipment in American Cinematographer not only testifies to the magazine's world-wide selling power, but to the fact that it evidently reaches the important buyers of equipment in every motion picture production center on the globe.

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Kinevox, the leading portable synchronous magnetic recorder, and American Cinematographer to tell the world about it. Kinevox, popular-priced recorder and American Cinematographer, the magazine that is read in every motion picture production center throughout the world.
THE RO-CRANE

(Continued from Page 65)

It is the film loading procedure for the Technicolor camera which, until now, has precluded its use on the RO Crane. The color camera, using three negatives, requires access to both sides for loading and inspection. Because of the underslung design of the crane's camera support, the Technicolor camera could only be opened from one side, unless removed from the crane altogether—a time-consuming operation which materially slowed production.

Now, John Arnold has overcome this obstacle by designing a rotating base plate for the camera which replaces the original camera base on the crane. Also, by adding an inch to the length of the supporting column, the added height of the Technicolor camera is easily accommodated.

The rotating base revolves a full 360°, and may be locked firmly at any point in the circle of rotation. The crane's desirable pan and tilt feature becomes available to the Technicolor camera, as may be seen in the last photo, of the 3-picture group. No other crane affords the Technicolor camera this flexibility.

WILLIAM J. GERMAN, who has been appointed distributor for Eastman professional films, as reported in American Cinematographer last month, in effect takes over the distributorship of J. E. Brulatour, Inc., whose contract expired on December 31st.

According to Edward P. Curtis, Eastman Kodak Company vice-president who announced the appointment, German will continue to operate the distributorship with substantially the same personnel which made up the Brulatour organization.

There can be no change in operational methods as contemplated, since it was German who managed J. E. Brulatour, Inc., following the death of the company's founder, and who earlier had been Brulatour's right hand man.

"In view of Mr. German's long experience in selling film to the motion picture industry and his wide contacts throughout the trade," said Mr. Curtis, "I feel that the Kodak company is fortunate in obtaining his continued services in that capacity. We are confident the industry will continue to receive the same excellent service to which they have been accustomed through the years from the Brulatour company."

German was born in Port Hope, Ontario, Canada. He came to Eastman Kodak as an accountant in 1906. He has a long history with Eastman in various auditing positions, including retail stores, later was in charge of planning and distribution. He resigned in 1921 to become manager of GM Laboratories, the Sen Jack Film Printing Corp., and the Paragon Studios and Laboratories in New York.

He became associated with Jules E. Brulatour in 1922. In 1924 he organized and became vice-president and general manager of J. E. Brulatour, Inc., which held the distribution rights on the sale of Eastman motion picture films to film producers and the television industry. He succeeded Brulatour to the presidency, when the latter died in 1946.

An associate member of the American Society of Cinematographers, German's friendships among cinematographers on both the east and west coasts are considerable.
The improved crane was first used by Hal Rosson, A.S.C., in shooting the Technicolor musical, “Singin’ In The Rain.” It enabled him to achieve the remarkable camera shots which highlight the musical and dancing numbers. Robert Surtees, A.S.C., used it with equal success in filming many scenes for M-G-M’s “The Merry Widow,” starring Lana Turner and directed by Curtis Bernhardt. Many of the intricate camera shots which mark the photography of Metro’s “Lovely To Look At,” with Kathryn Grayson and Red Skelton, were accomplished by George Folsey, A.S.C., using the improved RO Crane. Skelton, incidentally, was so intrigued with it on the “Lovely To Look At” set, he brought his cine camera to the studio, mounted it on the crane and made 16mm color movies with the crane going through its full cycle of maneuverability.

Arnold’s next challenge in improving his “baby” is to devise a way to mount a fully blimped Technicolor camera on the crane, without sacrificing any of the freedom of camera maneuverability and accessibility that the latest improvement affords. As might be expected, this prospective improvement already is well advanced in the planning stage. Incidentally, Arnold, inventor of the RO Crane, holds patents on it having 10 allowable claims.

The speed of the exposed negative is greatly increased by special laboratory treatment before developing. He had previously used this process to good advantage in shooting scenes deep within the foundations of Boulder Dam for “711 Ocean Drive.”

The air attack by a flight of P-47’s constitutes one of the most dramatically exciting and photographically spectacular sequences of the picture. Planer’s camera picks up the planes as they come hurtling across the sky, and follows them as they drop bombs which send great fountains of fire and smoke leaping into the sky. The camera then pans sharply away from the holocaust and moves in on a closer angle of a hand-to-hand fight involving the protagonist—all this in one continuous “take.” The total effect has an immediacy and impact only rarely glimpsed in the most poignant documentaries of World War II.

To prevent alarm and hysteria among the populace during the filming of sequences such as this, it was necessary to send out extensive advance warnings through the local press and radio.

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Whenever we shoot guns or use bombs,” the people were advised, “it does not mean the Russians are here.” Despite these warnings, many people in Nuremberg actually thought Hitler had returned.

As Planer’s camera recorded the story, German adults looked on with mixed emotions—watching Wehrmacht uniforms parading past posters of the Hitler era. And German children, too young to remember the war, thronged around the actors and movie equipment with the uninhibited curiosity and unfilled excitement of their youthful generation.

“It was our aim to make a picture with all the blunt realism of a U. S. Army Signal Corps documentary,” Planer explains. “In order to achieve this result we had first to discard all pre-
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AMERICAN CINEMATOGRAPHER
FEBRUARY, 1952

Few hours we had brilliant sunlight, then rain, and finally snow—which turned everything white and forced us to water down the landscape so that scenes shot earlier would match. Exposure was all over the scale, and I had to keep changing filters as time went on in order to get some semblance of consistency into a sequence that involved continuous action. At about 4:30 in the afternoon it got so dark that we had to shoot with artificial light.

It is a tribute to Planer that none of these hardships are evident in the sequence as it finally appears on the screen. Everything matches beautifully, and the action has a continuous and credible flow with a consistent photographic mood that sustains throughout.

The over-all effect of the photography is one of unvarnished, glamorous realism. There is none of the usual glossy "studio" quality to it at all. If anything, it is sometimes even brutally naked in its honesty. But the photography is extremely well done, with no trace of the technical roughness all too often excused by the word "documentary." It shows the sure hand of the master craftsman, the innate technique arising from a know-how bred of many experienced years in the medium. It is a superlative blending of realism and technical excellence.

For Frank Planer filming "Decision Before Dawn" was an assignment filled with challenge and a certain mixed nostalgia. This was his first visit to his native land since the turbulent days before the war. It was, however, a happy reunion of director and cameraman—for it was Planer who photographed the first film directed by Anatole Litvak at the German UFA Studios in 1929.

Being fluently bi-lingual, Planer was able to direct the German technicians in their own language. He found them most co-operative and full of admiration for American film production methods.

Planer is a meticulous craftsman, and his practice of slanting the style of photography to the dramatic demands of the story has won him a reputation for great versatility. In "Champion," for example, his lighting and angles accentuated the brutality of the theme. In "Letter From An Unknown Woman" the photography was suffused with a poetic lyric quality. "Cyrano" was stylized to reflect the romance of the period. His photography in "The Blue Veil" was completely unobtrusive, accenting simplicity, with no tricks for the sake of effect. All this is in sharp contrast to the raw, almost newsreel quality of "Decision Before Dawn." Currently he is winning deserved praise for his dramatically imaginative photography of "Death of a Salesman."
WHAT ABOUT THE COST?

(Continued from Page 64)

The settings to be used in the studio will have been designed. They will not only respect and represent the period and tone of the film but its action, and they will have what is needed to achieve the screenplay's requirements. The shooting angles will have been worked out in some preliminary detail. No more of a set than is required will be built. If a scene is aboard a ship, for instance, and the action is confined to an engine room, there is no need to build a whole ship.

Now—while all of this is going on—the production manager of the studio will be calling for a Budget Meeting. This is an affair which will be attended by representatives of all departments having to do with the film. In solemn conclave assembled, and in weary detail, the producer and director will hear every inch of what they plan to make ticked off and weighed in the financial balance. What, in brief, will it cost to ride 400 Indian warriors across the desert in a sandstorm? Wind machines cost money. So do horses—and Indian riders. How many cameras will be needed in a spectacular battle scene? How many extras will it take to fill a city street? How many days will they be used? Detail and endless detail is the order here but it is the basis upon which the whole thing must be computed and computed it is.

I should like to add here a word of protest against a common practice of gauging a picture's importance by its cost. This is a false evaluation, for any film is as good as its story and the skill and rightness of its presentation. Mere money—that's a sneering expression, isn't it?—has never yet replaced a good concept or the good execution of that concept. Some films by their very nature, are to be done for one sum; others of greater physical size, for another. The great trick, in making very big pictures, if I may use the expression, is to make the mental and entertainment size match a great expenditure. When this happens you have the screen at its overwhelming best.

It would be impossible, I think, in a series of articles like this, to recount and illustrate the entire detail of film production because all of us have learned what we have learned by one process and one alone—experience. To the degree by which individuals differ, we have or haven't profited by our experience. We have had no textbooks and no formal teachers. But inevitably we have observed the work of some great people and we have had some great

(Continued on Page 87)
**American Society of Cinematographers**

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes nonresident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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**20th Century Fox**


**Universal-International**

- Charles Boyle, "Untamed," (Color) with Joseph Cotten and Shelly Winters, Hugo Fregonese, director.

- Russell Metty, "Against All Flags," (Color) with Errol Flynn and Mauree O'Hara, George Sherman, director.

- Edward Cronjager, "Condor's Nest," (Color) with Cornel Wilde and Constance Smith, Delmer Daves, director.

**Warner Brothers**


WHAT ABOUT THE COST?

(Continued from Page 85)

practical instructors and sometimes we have had the brains to listen. And diplomacy — this is important. Its use must be known and practiced.

Arthur Hornblow, Jr, for some twenty years has been going through the process of putting films on paper and then onto the screen. So he is an experienced man in all phases of our work, including diplomacy. But his skill was sorely tested some years ago by a young Berkshire shoat. A shoat—and I explain this only because some of you may not know—is a young pig. This was a Berkshire shoat and his name was Wafford.

Mr. Hornblow at that time was making a musical picture for Paramount and it involved the services of Mr. Robin Burns, the Arkansas folklorist and bazooka virtuoso. Mr. Burns, portraying his familiar character, had scenes with young Wafford and they got along famously. Scene after funny scene was run off before the cameras and those concerned were in high glee as they looked at the rushes day after day. Wafford’s trainer was a dour fellow. The mule, he explained, was five years old and had spent much of that time in learning to do many of the stunts required by his role. Wafford is but eight months in this world; he has a great comedian to help him in his scenes—he is being well paid for one so young and certainly by the time he is 5 years old, he, too, will be commanding a larger salary.

The trainer looked into Mr. Hornblow’s eyes and saw no sympathy.

“Tell Wafford this and tell him to keep trying,” Mr. Hornblow said.

This message was carried back to Wafford, who digested it. Being an intelligent young pig he took the advice, finished out his role and achieved such memorable success that when he had reached his growth the Fox Studios summoned him—at a salary befitting a five year old Berkshire — for a part in their musical version of “State Fair.”

That was a digression, wasn’t it?

Well, a conclusion to such random remarks would be that we are now at that stage when a picture is ready to start shooting — when the details of preparation have been concluded and the director is ready to take over on the stages and the producer’s task will be to observe and see that each carefully laid plan comes out on film as it was in spirit communicated to the paper.

I have written only of generalities, for there is not time to cover both generalities and detail. As to the attention to detail: by being eternally unsatisfied with the cliche and the hackneyed in both the script and in the shooting will give the completed product its quality— if you start with a subject and theme worth doing at all.

A NEW MOTION PICTURE that demonstrates possibilities of high-speed motion picture photography is now available from Eastman Kodak Company, Rochester, New York.

The fifteen minute film Magnifying Time With The Kodak High-Speed Camera, which is in 16mm sound, begins with the statement that time is no longer bound by the clock; that time control is now possible with a high-speed motion picture camera.

To prove the point, and to show various applications of the camera, the film proceeds to illustrate how every movement from dropping an egg in a frying pan to the implosion of a TV tube can be slowed down to a snail’s pace for leisurely study and analysis.

The film is available on free loan to business, industry and schools.
A WAY TO BETTER FILMS

(Continued from Page 75)

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M. S. Fade In. Guest seated at table eating. Lightning and thunder. Old hag and Innkeeper emerge from kitchen and walk toward guest. Innkeeper has bottle of ale. The old hag still carries butcher knife, and from camera viewpoint it looks as if she is going to wield it on the guest. Instead, she reaches over the table and cuts a slice of bread, and says: "You'll never live to regret this night." She shuffles away with a cackling laugh. The Innkeeper places the ale on the table.

6. M. S. Guest jumps up from table and Innkeeper emerges from kitchen and runs hatless out into the storm. Very loud lightning and thunder crashes, as scene fades out. The End.

The thunder and sound of falling rain heard during the action was recorded simultaneously with the dialogue from a sound effects record, which was played on a phonograph and picked up by the microphone. In the long shots, we required the effect of lightning which could be seen flashing through the windows of the Inn. To achieve this, we used two No. 2 photoflood lamps placed behind the set, out of camera range.

The sound effects record had eight separate claps of thunder, spaced at intervals. This record was timed so that three seconds before each clap of thunder was heard, a signal was relayed to an off-stage assistant who switched the photo lamps on and off quickly, producing an erratic flash that resembled lightning.

The only illumination within the inn appeared to come from two candles on the table. This effect was achieved by using four No. 2 photofloods. This gave an overall low key lighting to the set, which was augmented by light from four No. 2 photospots.

For all closeups, we used two 500-watt spots, which gave a softer light than do photospots. All in all, the effect achieved is quite realistic, with light on the player's faces obviously coming from the candles and the background faintly discernible—yet not in complete darkness.

This filming project proved conclusively what we had contended in the beginning: that a polished, professional-like amateur dramatic film can result when trained actors and the proper settings are available.

BOOK REVIEWS

(Continued from Page 60)

1915 is perhaps the most comprehensive and informative book yet written on the somewhat nebulous subject of television technique.

The book represents no superficial analysis of how a modern television station works, but delves deeply into the theories and the psychological premises underlying an intelligent approach to planning and programming for TV. The fact that these principles are applied only to a tiny percentage of those now engaged in TV production is certainly no fault of the author. He presents in this book a most intelligent analysis of the medium and its possibilities—and one can only hope that once television outgrows its awkward stage, practice will be able to catch up with theory.

(Continued on Page 90)
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(Continued on next page)
BOOKS
(Continued from Page 38)

For those previously engaged in production for stage, screen or radio, Mr. Hubbell presents a most valuable comparison between the techniques of these separate media and that of television production. He points out how and where adaptations of technique must be made—not only in regard to mechanics, but the point of view of the television technician, as well.

The book places suitable emphasis on the fact that TV is primarily a visual medium (despite vigorous protests from the radio faction), and that the camera is the most important single element in production. There is a very thorough discussion of visual technique, camera movement, composition, lighting, editing in the camera, and special effects.

While much of this is discussed in an apparently theoretical manner, it reflects the accurate analysis of a man who has undoubtedly had a great deal of practical contact with TV production.

The sound or “audio” phase of production comes in for very thorough discussion, and here again there is much theory concerning the psychological use of sound and its application to the visual picture. However, these theories are well illustrated by reference to actual programs or motion pictures in which various effects have been well used.

The last chapter of the book, titled “Going On The Air” is an actual “blow by blow” description of the rehearsal and production of a dramatic show titled “Your Witness” as produced by television station KECA-TV in Hollywood. This is a highly informative account of what happens on the stage and in the control room before and during the show. It serves to illustrate in a very practical way many of the theories previously discussed in the book. The appendix contains a complete original TV script titled “Thou Shalt Not Kill,” which is a fine example of TV script form and the mechanics of production.

The book is slanted for the serious student of TV and for those already engaged in the profession, but it also includes many elementary explanations easily understandable to the layman. The text is well-illustrated by excellent still photographs from actual TV production.


Here is a scholarly and well-written analysis of the important part played by film in modern television programming. It should prove an increasingly valuable text in view of the fact that there is a growing trend toward the use of film as opposed to live programming. Several of the top live shows, previously kinescoped for national release, are now being shot by motion picture cameras and edited into a finished program.

The book deals mainly with a discussion of the problems of the program director in selecting suitable film for TV transmission, and those of the studio projectionist in actually presenting these films on the air. To studio personnel, these problems are indeed of the greatest importance and Mr. Battison has neatly summarized the results of a great deal of trial and error experience in this field.

Despite the book’s somewhat misleading title, there is little actual discussion of the technique or procedure of making films for TV. Only one chapter out of a total of 22 is devoted to this subject, and that one chapter deals only in generalities and basic theories. This no doubt reflects the fact that Mr. Battison’s own background has been more in the film programming for TV, rather than actual production of films. He is perhaps wise not to have attempted a comprehensive discussion of the filming angle, since the TV medium is still so new, relatively speaking, that even the so-called “film experts” have not yet agreed on standards of technique for TV filming.

There are chapters devoted to such subjects as Movie Making Equipment, Lenses, Lighting, Color — but these subjects are handled more in the manner of a survey of theories, rather than as an account of actual experience in working with these factors. Moreover, the techniques discussed frequently overlap from live TV to film for TV, so that it is sometimes difficult to retain a clear idea of which production phase is being discussed.

Mr. Battison is to be commended upon writing about a phase of TV programming that has been more or less ignored in other texts dealing with television programming. His chapters on Choosing Films for TV, Newsreels for TV, Film Commercials, Kinescope Recording, and Copyright and Releases are especially well done, and should prove highly informative to those concerned with TV programming—either as studio workers or technicians. There is much in the book that will also prove of value to the student of modern television.

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James VanTrees uses eight cameras to shoot Groucho Marx Show for television. (Story on Page 114.)

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ON THE COVER

THE EIGHT-CAMERA photographic setup for filming the Groucho Marx “You Bet Your Life” television show, and the staff that handles the photography, direction, sound, etc. Groucho can be seen in his customary spot before the mike. James VanTrees, A.S.C., (left center) who directs the photography, points out a change in camera position to Dr. Fodor, producer. Story about photographing the show begins on page 114, this issue.—Photo by Herb Ball.
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CINE CITATIONS

for March

Reviews Of Noteworthy Cinematography

by A. E. G.


Irving Glassberg is one of the many unsung artists of the motion picture camera in Hollywood who go on diligently month in and month out doing a superb job of cinematography—in this case for Universal-International studio in Universal City. Because U-I productions in recent years have rarely been in the “epic” class, rarely listed among the Academy Award nominees, this does not mean there is any dearth of cinematographic artistry in their making. “Flesh And Fury” is one production that is above the average recent U-I product, and it is particularly notable for the fact it displays Glassberg’s camera skill in its true luster.

“Flesh And Fury” stars Tony Curtis as a handsome deaf mute who rises to the top of the pugilistic ladder in his weight division despite the selfish interests of a hard-bitten night club dancer who “takes him over” during his rise to fame.

The fight sequences are among the best ever photographed. This, because Glassberg avoided trick camera effects, stuck to simple but realistic recording of the most dramatic ring action. Film editor Virgil Vogel followed through with adroit cutting to make every foot of Glassberg’s photography count. As a study of skillful ring-action photography, “Flesh And Fury” is tops.


George Barnes denies that the photography of “Greatest Show” is anything more than “a routine job of cinematography.” Maybe so. But the very enormity of the job, the special lighting that was worked out for the under-the-big-top scenes, and working tight daily schedules in harmony with the circus organization on tour certainly was a tremendous accomplishment. (For further details see “Filming The Circus,” our December ’51 issue.—Ed.)

This picture marks the first major production for which the new low-light-level Technicolor film was used. It affords comparisons, both in color quality and lighting results. Considering that most of the knotty problems of both lighting and cinematography were worked out right on location (on the road with the circus) it is a noteworthy accomplishment in the long line of photographic successes for Barnes.

Gordon Jennings, A.S.C., Paul Lerpe, A.S.C., and Deveraux Jennings, A.S.C., have contrived some spectacular effects for this production—most notable of which are the train wreck scenes. For Barnes, a highlight of the picture is his excellent closeup photography of Star Betty Hutton.


A taut, entertaining drama of life and times of convicts in the modern penal system, Guy Roe’s artful camera work deserves more than usual credit for the realism and authenticity one feels when seeing this picture for the first time on the screen. The location sequences, which make up the greater part of the picture, were filmed at the nation’s largest prison—San Quentin.

Sequences were filmed in the infirmary, the “yard,” the mess hall, the machine shops, the laundry, the various cell blocks, the gymnasium—even the prison theatre and the prison baseball diamond. Roe’s careful lighting and studied camera setups bring to the screen each of these locales in authentic detail that would not have been possible with studio sets and the unlimited lighting equipment “on-the-lot” shooting affords.

Director Hugo Fregonese holds that “photomotion in pictures, as in money, has no real value.” “My Six Convicts” bears out this creed. Photographically, it’s another of those “Academy Award” calibre photographic jobs that all too often escape attention at Awards time. (Continued on Page 103)
SOME of the most exciting achievements in movie history are coming out of Hollywood today. And still prominent in the forward march of production techniques is improved lighting — provided, of course, by "NATIONAL" CARBON ARCS.

Throughout the fabulous Quo Vadis, for example, lighting was modified over a wide range of values—from 150 to 5,000 foot-candles—to reinforce dramatic progression. Prominent among some 250 tons of electrical apparatus shipped to Rome from the U. S. was carbon-arc lighting equipment—indispensable for the foot-candle flexibility appropriate to this film's epic brilliance, sweep and color.

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Because it was released early in January, “Another Man’s Poison” runs the chance of being forgotten by many who shouldn’t when, come next December, it is time to evaluate pictures for nominees for Academy Awards. However, this picture, photographed by the man who last year won an “Oscar” for the best photography in black-and-white, deserves to be considered a nominee in 1953.

An unusual drama, filmed in its original English locale, is ably acted by Bette Davis and her husband Gary Merrill, assisted by an excellent supporting cast. Krasker’s camera makes breath-taking pictorial art of the rugged English landscapes, but it is in his interiors that both his lighting skill and camera magic are most pronounced. Here lighting ranges from low-key to brilliant full day shots; from night scenes in rain to sunlit scenes on the broad moors and village shop centers.

“Another Man’s Poison” proves for this one-time Academy Award winner that there is more of the same kind of stuff in his bag of tricks which earned him an “Oscar” last year for the photography of “The Third Man.”

THE FIRST TIME—Photographed in black-and-white by Ernest Laszlo, A.S.C. Produced by Harold Hecht for Columbia Pictures Corp.

This is another standout photographic job by Ernest Laszlo that demonstrates this ace cameraman’s ability to give the classical photographic touch to more pretentious productions, such as come up annually for Academy Awards. This implies no mediocrity for “The First Time,” which in our opinion is a “sleeper” destined to bring surprising returns to the boxoffice.

It’s all about the trials and tribulations of a young married couple and their first born, acted by a cast of players who give thoroughly believable portrayals enhanced by Laszlo’s photography. The skillful camera work is notable for the warmth and mood it lends the story, and the night exteriors are a fine study in this type of cinematography.

Laszlo’s lighting of interiors also shows meticulous skill and the ability to subtly point up changing moods in a story when it is desired, without resorting to ostentatious camera and lighting tricks. A fine example of black-and-white photography recommended for all students of cinematography.

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ANNUALLY, and in advance of the yearly Academy Awards presentations, numerous non-industry sponsors distribute awards to the U. S. motion picture industry and to the artists, technicians and executives of that industry. Of these, perhaps the Golden Globe Awards, sponsored by the Hollywood Foreign Correspondents Association, the Look Awards given by Look Magazine, and the Photoplay Gold Medal Awards handed out by the publishers of Photoplay Magazine are the most noteworthy. All three of these sponsors annually evaluate the industry's best pictures of the year and present handsome awards to all whose talents and artistry contributed to the success of the productions. Invariably, members of the American Society of Cinematographers are prominent among the award-winners for their outstanding contributions in photography.


For Planer, this makes the third Golden Globe Award in a row. Last year he won the Association's Golden Globe Award for the Technicolor photography of "King Solomon's Mines." He also won the Academy Award for best achievement in color photography for this same picture.

William Skall is a previous Academy Award winner, having won an Oscar along with associate cinematographers Winton Hoch, A.S.C., and the late Joseph Valentine, A.S.C., for "Joan Of Arc," produced by Sierra Pictures for RKO.

"Quo Vadis" has been nominated for an Academy Photographic Award this year.

When Photoplay Magazine announced the winners of its annual Gold Medal Awards on February 8th, Metro-Goldwyn-Mayer's "Showboat," photographed in Technicolor, was cited as "America's most popular motion picture." The citation culminated in Gold Medals for

(Continued on Page 132)
... and like Julius Caesar, Bolex came, saw and has conquered the television field.

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'The Wild North' Introduces
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Single color-negative requires no special camera, is developed and printed by the studio. Prints are marked by unusual clarity, richness and definition.

By ARTHUR ROWAN

'The Wild North,' first full-length feature production made with the new Ansco Color professional film, is Metro-Goldwyn-Mayer’s answer to a long search for and the development of its own color filming process.

Scheduled for general U.S. release late this month, "The Wild North" recently was previewed in Hollywood. Its first foreign presentation took place in London, late in January. The accolades resulting from these initial showings are attracting wide interest in the long-heralded Ansco Color professional film, and compliments for MGM's technicians who achieved such remarkable results with it.

The new Ansco Color process consists of a combination of camera, duplicating and printing films of the multilayer, complementary color type. Each film has a "pack" of three color-sensitized emulsion layers and a filter layer coated on safety film base, the individual layers being so thin that the total thickness of the pack exceeds only slightly that of most black-and-white negative emulsions.

In the process, four Ansco films are employed:
- Type 843 Ansco Color negative camera film.
- Type 846 Ansco Color negative duplicating film.
- Type 848 Ansco Color positive printing film.
- Ansco Color Compensating travelling matte film.

The laboratory processing sequence of these color films is similar to that of black-and-white motion picture films, with only a bleach solution added between the developer and the fixer. No complicated processing equipment is required.

There is an interesting two-phase
story in the production by MGM of its initial Ansco Color feature film: first the studio's development and adaptation of the Ansco Color process for its feature-length productions, and second the actual photography of "The Wild North."

As have other Hollywood major studios, MGM long had the desire to develop its own color filming process, which would enable it to achieve greater studio control plus increased speed in the making of color pictures. Simultaneously, with MGM's initial developments, 20th Century-Fox and Warner Brothers set out to explore other color film processes for similar reasons.

Metro's initial exploration of Ansco Color began several years ago when John Arnold, the studio's executive director of photography, chanced to see one of the first feature productions in Ansco Color made in this country. The picture, "Sixteen Fathoms Deep," was photographed on the old Ansco reversible 35mm color film. Although, photographically, the production left a lot to be desired, still, Arnold saw possibilities in it as the medium for MGM's color process. He was especially attracted by the fact the studio could process the film in its own laboratory and make the release prints, enabling it to maintain complete control over color productions from beginning to end.

Arnold arranged a screening of "Sixteen Fathoms Deep" for MGM production heads; their reaction encouraged him to continue further study of the film. A supply of Ansco color film was obtained and there ensued many months of experimenting, with the object of determining the most desirable lighting and photographic procedure for the medium. Having extensively studied all the color films that have been developed to date, Arnold holds that satisfactory screen results can be had with most of them providing that the matters of correct color temperature for set illumination and the proper filters for photography are properly dealt with, and the correct procedures for each are established for those who are to work with such films. Some color processes possess certain attributes that are not found in others, such as simplicity of use in the camera and in the laboratory, which are important to the final screen result.

In the early days of MGM's exploration of Ansco Color, the studio had no developing equipment for the film. The laboratory work, therefore, was done by a local commercial film lab specializing in Ansco color processing. Later, John Nicholas, MGM's film laboratory head, converted some of the studio's developing equipment for processing Ansco Color. Other equipment was built for making duplicate prints. All during this initial stage of exploration, Ansco factory technical men worked in close cooperation with Arnold and Nicholas; and when, later, Ansco brought out its newer Ansco Color negative-positive process, MGM studio was made the principal testing ground for the new product.

All of the studio's work on the old Ansco reversible film was promptly abandoned, and the color project was begun all over again from scratch with the new films. "One of the first things we discovered," said Arnold, "was that the new Ansco Color negative was superior in many respects to the old reversible film. It had truer color, was sharper on the screen, and especially important was the fact it possessed unusual ability to render remarkable definition in shadow areas. Now, more than ever, we seemed to have hit upon a color process that had every quality we desired."

All this generated renewed enthusiasm in the studio for the development of MGM's own color filming process. Ensuing months saw the Ansco film put through every conceivable test. One of the most conclusive resulted from photographing Ansco Color right along side the production cameras on several important sets of MGM color films then in course of shooting. The object of these tests, of course, was to determine how Ansco Color negative would respond to the set lighting and makeup currently in use for color at the studio.

Similar research continued for several months, culminating in what proved to be, perhaps, the most decisive test of all. This was the test made in the Hawaiian Islands during the time the studio was making one of its big color productions.

(Continued on Page 122)
Ten Films Nominated For Photographic Achievement Awards

BY FREDERICK FOSTER

Twelve Hollywood directors of photography are in the running this year to receive Academy Awards for the best motion picture photography of 1951. Names of the contenders and the ten filmed productions which won for them the coveted nominations appear in the column at the left.

The respective merits of the photography of these ten productions will be the subject of much discussion and no little controversy during the next few weeks which precede the final voting and awarding of the Oscar trophies at the Academy’s gala presentation ceremonies. This will take place at the RKO-Pantages theatre in Hollywood the night of March 20th. The event will be broadcast throughout America over the ABC radio network; in addition, it will be shortwave throughout the world through facilities of the Armed Forces Radio Service. The event will not be televised.

The selection of films for the Academy’s annual Cinematography Awards begins each year with the cinematographers themselves. The first of January, each director of photography in the Hollywood motion picture industry is given the opportunity to submit one black-and-white production and one color production on which he has received single or joint screen credit. Titles of these films are included on a preliminary or primary ballot which is then sent to all directors of photography in the industry. In addition, each director of photography may submit any one color foreign production which he deems worthy of Awards consideration. Thus, foreign-made films have a chance to compete with Hollywood films for “Oscars.”

On receipt of the preliminary ballots, each director of photography then votes for ten or less productions in each classification, in the order of his preference. The twenty productions receiving the greatest number of votes are then screened by the Academy to give all directors of photography opportunity to see these productions under the same conditions.

Following these screenings, a nomination ballot, listing the ten black-and-white and ten color productions is sent to all directors of photography with instructions to vote for not more than five in each classification in the order of preference. The five productions in each class receiving the highest number of votes are nominated for the cinematographic awards.

Directors of photography are eligible to vote in the preliminary voting and nomination voting. Only Academy members participate in the final voting which selects the best film in each class for the photographic achievement award. Here, for the first time, the voting is not confined exclusively to directors of photography, but is participated in by members of all branches of the industry who are members of the Academy.

When the Academy of Motion Picture Arts and Sciences was founded in 1927, one of its expressed purposes was that of “encouraging the arts and sciences of the profession by . . . awards of merit for distinctive achievement.” In undertaking this project, the Academy founders were moved by a desire to dignify the film medium as a whole. Today, hardly anyone would dispute the contention that with the exception of the press, motion pictures stand as civilization’s most important medium of popular entertainment and education. One manifestation of this interest is the remarkable number of organizations which, over the years, have followed the Academy’s lead in honoring the achievements of film-makers. However, Oscar—the gold statuette awarded annually by the Academy—remains the most respected and sought-after trophy of them all.

The films which are this year’s nominees for cinematography awards are the best to come out of Hollywood in several years. Moreover, each represents the finest of cinematic art by the industry’s top directors of photography. Narrowing down the field of ten films to the “best two” is going to be a difficult task for the Academy’s members.

Only those who have actually seen all the pictures will be in a position to render an honest decision in the voting.

(Checked on Page 126)
JERRY WALD, author of the fourth article in this series written by members of the Screen Producers Guild, is associated with Norman Krasna in the Wald-Krasna producing organization, which has turned out such remarkable boxoffice hits as “The Blue Veil” and “Behave Yourself,” released by RKO-Radio Pictures. Earlier, Mr. Wald was executive producer at Warner Brothers for several years. Among his fine productions was “Johnny Belinda,” which won many Academy Awards.

A novelist and radio columnist on a New York paper for four years, Wald came into the motion picture business as a writer in 1932. His extensive knowledge of the mechanics of cinematography is a tremendous asset to him in planning productions. Few producers are able to match his knack of getting the most out of a dramatic situation, photographically.—Editor.

After nineteen years of writing and producing motion pictures there are many theories that I have explored in the hope of solving one of the ultimate mysteries of the motion picture business—why some films are hits and others, on which the same time, money, manpower and mindpower are used do not get back the cost of the main titles. I’ve found out many things and I’ll relate some of them here just as I would tell them to another producer.

I have learned many of these facts the hard way; and they are facts that I try to keep in my mind every time I start preparing a picture for production.

First of all, any motion picture production today is difficult—approximately the same problems, tensions, confusions and divergences appear in all studios. No producer can pretend to solve his difficulties with the wave of a magic handkerchief—but he should deal with them patiently, tolerantly, calmly and sometimes slowly. That has been indicated several times already in the previous articles in this series.

I feel the producer’s desire for a good picture is limited only by his own imagination.

The producer should demand quality and should be prepared to pay for it in time, money, thought and effort, and he should take infinite pains to get it.

A producer should stop trying to guess what the public wants. If he gives the public exactly what it wants, the public has seen it the night before, liked it, but doesn’t want to see it again.

A producer shouldn’t follow hackneyed formulas and let others do his thinking for him. Freshness and freedom from formula should be the order of the day. I feel a producer should make a story into a film only because he thinks it is fresh and original; and because he thinks it has quality and vitality.

A picture is a success because it is an honest portrayal of the life it deals with and because the people in it behave the way people would in such circumstances. Too many of us making pictures today have a craving for indiscriminate intellectual excitement and have lost the capacity to feel and think about simple emotions.

It is the nature of the business to take chances. And since this is true, producers should make the kind of product that will excite and interest the public.

I, personally, try to look for stories that are concerned with sensational and unusual adventures encountered in every known or imaginary spot in the universe. I prefer an unknown spot because it gives me an opportunity to excitingly show something new and different.

There Are No Magic Formulas For Making A Hit

A good piece of screen material is one that contains pioneering in either story or background and can be done with showmanship.

By JERRY WALD

A good producer knows exactly what he is seeking. He is not on a hunting expedition, wondering what luck he might have. There is one reason only for producing a picture—the producer’s conviction that the picture should be made. If a producer feels that the only reason for producing a film is that it will ring the box office bell, he’s entered himself into a guessing contest with the odds greatly against him.

Before a producer plans to make a picture, he must have a story. The selection of the story is not the entire answer to all his problems, but proper selection takes care of many of them.

(Continued on Page 132)
Success of entertainment 3-dimensional films is dependent on quality of the screen image.

By J. A. NORLING
President, Loucks & Norling Studios, New York, N. Y.

Diagram of a double projector installation for stereo movies using Polaroid filters on the projectors, plus Polaroid viewing spectacles on members of audience. Method is essentially that of Natural Vision Corp., Hollywood, which last month demonstrated its system for the A.S.C.

Some indication of the very substantial interest at this time in stereoscopic or 3-dimensional motion pictures is the fact that since publication of the first part of Mr. Norling's article in our January issue, two productions in stereo have been announced in Hollywood—the first, a feature film in 3-dimension color by Arch Oboler, using the Natural Vision, Inc., process, and the second, an industrial film by Raphael G. Wolff studios to be photographed in 16mm color. The Natural Vision process, incidentally, was demonstrated before members of the American Society of Cinematographers in Hollywood on February 11th.

Further indication of the rapidly spreading world-wide interest in stereo movies is the fact that within the past thirty days, American Cinematographer has received two different and comprehensive papers on the subject, each culminating in a detailed description of the authors' own developments. These will be published at a later date.

In the initial article of Mr. Norling's two-part series, which appeared here last month, the author traced the development of the practical use of stereoscopic projection pictures in this country and described the various methods by which such pictures are made and viewed.—Editor.

It has always been the writer's opinion that the stereoscopic camera for professional use should be built to take the images on two separate films. This is to afford the greatest flexibility in the studio and to permit the use of short focus lenses and to facilitate the making of optical effects in the duplicating processes.

One such camera was built. It contains the features deemed essential to a versatile camera. The most important are a variable interaxial and a convergence control, but important too is a binocular finder showing in miniature a three-dimensional view of the scene to be photographed. Visual inspection during focusing seems superior for stereoscopic work and focusing is easier when the view is seen in three dimensions.

The binocular view finder has an additional advantage: it enables the cameraman to compose the scene stereoscopically, using the interaxial and convergence controls, manipulating them until he gets the best possible arrangement. He can increase the interaxial if he wants to increase the apparent depth of the scene. He can reduce it if nearby objects demand it.

The dual projector system used at the New York and San Francisco Fairs is substantially the same as that which was (Continued on Page 130)
New Resolving Power Test Chart

Variable-contrast test chart developed by National Bureau of Standards affords in a single photograph a complete record of resolution characteristics of a lens.

THE CONTRAST at various points on the new test chart is measured in the National Bureau of Standards optical instruments Laboratory. A densitometer is used to determine difference in photographic density of adjacent light and dark areas.

THE CONTRAST at various points on the new test chart is measured in the National Bureau of Standards optical instruments Laboratory. A densitometer is used to determine difference in photographic density of adjacent light and dark areas.

THE RESOLVING power of photographic lenses can now be more effectively measured and studied by means of a variable-contrast test chart recently developed by I. C. Gardner, F. E. Washer, and F. W. Rosberry of the National Bureau of Standards, Washington, D. C. The new chart enables the user to obtain in a single photograph a complete record of the resolution characteristics of a lens for any value of target contrast in the range from 0.0 to 1.5. Resolving power can thus be measured for both high and low contrast without changing experimental conditions, and the relationship between resolving power and contrast can be systematically investigated. Although the chart was developed primarily to measure the characteristics of aerial mapping cameras, it should be of value to makers and users of all types of photographic equipment for motion pictures.

Requirements for aerial camera lenses are very exacting; the lens must have good resolving power and little or no distortion over the entire field. As a result of research conducted by NBS since World War I, largely for the military services, precise methods for measuring and specifying distortion and focal length have been developed. Determination of resolving power, however, has remained something of a problem.

The method now in general use for designating the resolving power of a photographic lens is based on an evaluation of the image the lens forms of a high-contrast resolution chart. This chart contains patterns of parallel lines having various spacings. As the contrast between lines and spaces is higher than that usually found in natural objects, it has been suggested that a test made with this chart may not be applicable to the conditions under which the camera is used. NBS therefore undertook to develop a test chart that would simultaneously measure the resolving power of a lens and show the variation of resolving power with contrast. The resulting chart has been found very successful in application and is being recommended for adoption as an international standard.

The new test chart consists of a series of long parallel lines so arranged that the widths of successive lines and of the spaces separating them progressively decrease. The "instantaneous" value of the number of lines per millimeter is a linear function of the distance from the first, or broadest, line. At the same time, the transmittance of the lines and spaces varies from end to end in such a way that the contrast at any place in the chart is a linear function of the distance, measured parallel to the lines, from one edge of the chart; and the transmittance of the chart averaged over an area embracing several pairs of lines and spaces is uniform for the entire chart. The long lines of the chart make it especially suitable for microphotometric examination of the final test images, thus making possible a more objective determination of resolving power.

Two steps are involved in making the NBS chart. First, to insure a continuous variation in contrast, a negative of the high-contrast master chart is contact-printed onto a photographic plate while the exposure time is varied over the plate in a predetermined manner. In the second step, the high-contrast chart is removed, and the photographic plate is again exposed in such a manner that the transmittance averaged over several

(Continued on Page 130)
Bell & Howell Introduces 16mm Magnetic Recorder-Projector

New Filmosound Model 202 will record sound on 16mm films, also play back either optical or magnetic sound tracks interchangeably. Simultaneously, the company introduces its own sound striping service.

By E. C. Hajduk
Sales Engineering Dept., Bell & Howell Company

With the advent of Bell & Howell Company's new sound recording 16mm projector, the new era of simple, inexpensive 16mm sound film production is at hand for the non-professional film maker. With this new recording-projector, magnetic sound tracks can be recorded on the edge of any 16mm film regardless whether it was photographed at 16 or 24 frames per second speed. Old sound films, having optical sound tracks, can be given new magnetic sound that is revised and brought up to date; films with optical tracks also may be given a secondary track—in another tongue or with the text directed at a different group level—recorded alongside the optical track, so that either track may be played selectively on the new Bell & Howell recording-projector.

This is made possible by still another new development which Bell & Howell has perfected simultaneously with its new projector—the application of a narrow stripe of magnetic iron oxide emulsion on one edge of 16mm films. Striping may be done either before or after films are processed, or, as indicated above, it may be applied to release prints of 16mm films that have optical sound tracks. Home movie films also may have this sound striping applied so that narration, music and sound effects may now be recorded and played back in synchronism with the picture on the new Bell & Howell recorder-projector.

The small manufacturer or businessman, for whom sound films have been a too-costly item, now can produce his own ten-minute sales or training film in sound and color for about $200.00, including film. Made professionally, a similar production might cost a minimum of $3,500. The new Bell & Howell sound-recording projector costs only $699.00, and will easily pay for itself in a short time.

The new recording projector is an

(Continued on Page 128)
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1951

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NORBERT BRODINE, A.S.C.
"The Frogmen"

WILLIAM C. MELLOR, A.S.C.
"A Place In The Sun"

ROBERT BURKS, A.S.C.
"Strangers On A Train"

HARRY STRADLING, A.S.C.
"A Streetcar Named Desire"

For Color Photography
ALFRED GILKS, A.S.C.
"An American In Paris"

LEON SHAMROY, A.S.C.
"David And Bathsheba"

ROBERT SURTEES, A.S.C.
WILLIAM V. SKALL, A.S.C.
"Quo Vadis"

CHARLES ROSHER, A.S.C.
"Show Boat"

JOHN F. SEITZ, A.S.C.
W. HOWARD GREENE, A.S.C.
"When Worlds Collide"
Filming 'You Bet Your Life' Television Show

Director of Photography James VanTrees solved a multitude of problems before achieving the distinctive photography that marks NBC's weekly hit television show.

By Leigh Allen

To the layman, and indeed to many in the motion picture industry, it would seem that the logical way to present a comedy or variety show on television today is to film it. Yet, it's not always so simple as that. Actually, such programs—especially those which began earlier as radio shows and therefore seek to retain their original format in switching to TV—are faced with several problems when considering film recording for television. No two shows have the same problems.

An example is the Groucho Marx show, "You Bet Your Life," which is telecast weekly by NBC. When the producer decided to bring the Groucho Marx show to television, several factors made it imperative that the show be put on film. For one thing, the Marx format makes necessary close contact with the audience and complete freedom of the ad lib—something not always possible with a live show when confined within the limits of a set time slot, and especially when the producers are standing around with wrinkled brows and stop-watches in hand. Groucho Marx requires a more flexible working format. He wants adequate time to "develop" each show, to be able to "feel" it as it develops. Thus, it often requires an hour to do a program which, after skillful editing, ultimately hits the video networks in a slick, tight show of exactly 30 minutes air time.

In the beginning, this posed a complete set of problems from the point of photography—different than those that might be encountered, say, by Bob Hope or Red Skelton—both of whom have yet to switch to film from live TV.

When it was decided that the Groucho Marx show was to be filmed instead of telecast live, it was soon apparent what the production problems would be: first, the show would continue as in the past, running about an hour, allowing Groucho to work unhampered by time. Second, there could be no interruptions for changes in camera setups, for changing film magazines, etc. The entire proceeding would have to run along smoothly and continuously just as if there were no cameras in the studio, yet there would have to be ample medium and closeup shots, and changes of camera angle to give variety to the presentation. In short, the show would have to be handled as a motion picture production, with the footage edited down to fit the allotted air time.

This meant that several motion picture cameras would have to be assembled in the NBC studio to record the show from different cameras could easily be identified, cueing method would have to be worked out so that the films from the different cameras could easily be identified with the sound track, which was recorded separately. And it meant that all...
of the photographic problems such as lighting, film densities and quality also had to be tackled and settled.

It is not surprising that the first few shows suffered from lack of solution of many if not all of these problems, for the only way they could be solved was by trial and error. No other TV show had encountered quite the same problems and therefore there was no precedent to follow.

The early Groucho Marx shows were filmed with a battery of cameras, ranging from four to eight in number, some of them mounted on dollies. However, it was not the cameras nor their position in the studio that proved the biggest stumbling block. It was the final result on film. And this was soon traced to one thing—the lighting. It became apparent that regular motion picture set lighting would not do, that a completely different illumination technique would have to be developed.

About this time, James Van Trees, A.S.C., one of the movie industry's top cinematographers, was called in to direct the photography. After shooting his first show, he projected a print on a theatre screen. It looked perfect. But he wanted to see how it would look on the TV tube. At NBC's studio he looked at it on a closed-circuit TV receiver. There he saw the film with all its photographic deficiencies, the shortcomings that would seriously affect its visual results on home TV screens.

After “sleeping on it” overnight, Van Trees persuaded the show's producers to allow him to film part of the show again in a test, using standins, and a completely different lighting and camera set up. The test film was quick-processed and shown to the producers on a closed circuit, just a scant two hours before the regular show was to be filmed. The result was a tremendous improvement. The new method was approved. Van Trees had found the secret; and his method for lighting and photographing the Groucho Marx show re-

(Continued on Page 124)
Amateur CINEMATOGRAPHY

Home Sound Projection Booth

By LEO CALOIA

Most serious amateurs look forward to the day they can have a separate projection room in their home, isolated from other activities of the household—a snug place, that could be locked if necessary, and where all essential projection equipment may be set up, ready to operate at the snap of a switch.

I had long dreamed of just such a setup, which would enable me to show films in an air of orderliness and comfort; for me—no more of that fuss and bother of getting out projector and screen and setting them up each time pictures were to be shown.

Putting on a home movie show with sound films is even more difficult to do where additional cords must be strung along the floor and noise of the projector detracts from the enjoyment of the sound.

Like many other cine amateurs, I finally did something about all this.

(Continued on Page 132)
You'll get that softer, "Real-Life Look" with ANSCO Color Film!

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Try ANSCO COLOR, and see the difference!
'Reverse Action' Tricks

Using old-time professionals' trick of shooting action with camera upside down, the amateur can add many unique comedy effects to his films.

By CHESTER TAYLOR

Back in the early days of silent movies, the trick effects that highlighted many films of that era—particularly the Keystone and Harold Lloyd comedies—were made by the cinematographer with his camera. There were no optical printers in those days, and no special effects departments such as studios have today.

One of the best remembered effects created by the cinematographers of silent movies, and one still good for laughs, resulted from reverse action or "upside down" photography. Properly executed, it is one of the easiest and most effective camera tricks the amateur can produce in his movies. It can be applied to a wide range of action—from simple backyard comedies to scenes which would be difficult to photograph using the camera normally, as for instance when photographing a simulated automobile or train crash. Using the reverse action technique, such scenes are shot with the crashing vehicle moving away from the camera.

Basically, the procedure for reverse photography consists of shooting the action with the camera mounted upside down. When the film is processed and returned from the laboratory, scenes (Continued on Page 126)
Camera-men know that cameras as well as cars take a beating at the Ford proving grounds. That’s why the MAURER 16mm. was chosen to film the rough-terrain tests of the new Ford-Mercury. When the results must be perfect no matter what the operating conditions, MAURER is always the answer. In actual field operations both from the tropics to the Arctic and abroad, the MAURER has proved to be the first choice among professionals for accuracy, top-flight performance and simplicity of operation. Because it meets so many varied needs, more and more producers of fine films are specifying the MAURER 16mm. — the ideal camera for every phase of professional motion picture production.

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New Dollies For Studio And Location Use

Camart TV Camera Dolly and Camart Baby Dolly designed especially for light weight and portability.

Engineered especially to meet the exacting requirements of particular motion picture and television cameramen are two new camera dollies now being demonstrated daily by The Camera Mart, Inc., in the company's new showrooms at 1845 Broadway, New York City.

The Camart TV Camera Dolly is a medium four-wheel unit with maneuverable boom arm capable of supporting any heavy-duty professional motion picture or television camera. It is ideal for studio use or for use on location. When used in limited areas, its 30-inch width will prove additionally convenient in that the dolly will travel through most doorways. Constructed of aluminum alloy castings, bridge supports insure strength and flexibility. Total weight of dolly is 350 pounds, enabling it to be handled with a minimum crew. It can be lifted easily and transported in a station wagon. When necessary, the dolly may be dis-assembled into three easy-to-carry sections—a decided convenience when dolly is to be used in remote locations such as old buildings without the convenience of an elevator.

The dolly will accommodate cameraman and assistant, and it can be maneuvered easily by one man, when used either on or off dolly tracks. Large 10-inch ball-bearing rubber-tired wheels assure smooth gliding motion, and the wheels have been especially aligned for use on tracks. The two front wheels are fixed and the rear wheels have conventional auto linkage steering mechanism to provide for sharp turns. Two floor locks make the dolly rock-steady for set shots. Telescoping boom arm struts (not illustrated) prevent vibrations on extended dolly runs.

The head has two finger-tip leveling jacks for quick horizontal adjustment of the tripod head. A vertical leveling rod attached to boom-arm controls the position when setting for a side shot. The boom provides for using camera with lens as low as 26 inches or at a maximum height of seven feet. Raising and lowering boom arm is done by turning a counterbalanced wheel controlling a geared lift.

The Camart Baby Dolly is a four-wheel platform dolly for use with the camera mounted on a tripod, baby tripod or hi-hat when the shooting script calls for dollies sequences yet the budget prevents use of larger dollies. The outstanding feature of the Baby Dolly is the sturdy and adequate platform that enables the assistant to ride with the camera along with the cameraman to control follow focus. An adjustable swivel seat is provided for the operating cameraman.

The Baby Dolly was also designed for portability, and it may be dis-assembled into three sections within a few minutes.

(CONTINUES ON PAGE 122)
SMALL GYRO TRIPOD

This lightweight GYRO Tripod performs with all the efficiency of larger, heavier and costlier tripods now in use.

New, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm.; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400' magazine. It features Super Smooth Pan & Tilt Action.

Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform available with either 1/4" or 3/8" camera screw.

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to afford easier transport in difficult locations.

Total weight of the Baby Dolly is 75 pounds. It measures 35 inches in width and 46 inches in length. It has four 8-inch ball-bearing rubber-tired wheels which are carefully pre-aligned for use on tracks. Rigid clamps provide for quick insertion and locking of tripod legs. The same auto linkage steering mechanism used on the larger TV camera dolly also provides ease in maneuverability of the dolly’s two rear wheels. Two floor locks are also provided.


**MGM's New Ansco Color Process**

(Continued from Page 107)

there. Ray Rennahan, A.S.C., shot a thousand feet of the Ansco Color negative on the rich Hawaiian exteriors which Charles Rosher, A.S.C., simultaneously was shooting for MGM's "Pagan Love Song."

After evaluating the results of all tests made to date, it was decided that the studio had gone about as far as it could in its explorations with Ansco Color. The next step was to put the film to use in an actual production.

"The Wild North," then titled "The North Country," was the first production on MGM's color film schedule to be considered. Here was a story that had everything necessary for an exhaustive test of any color film: dark, rugged interiors of a north woods cabin; rich exteriors in majestic mountains; both in summer and winter; and snow—always a challenging condition for the color cinematographer.

Because a great deal of the story was to be shot in snow, Arnold decided to find out first how Ansco Color negative would respond to snow photography, and especially to the extraneous light snow reflects. Taking a camera and crew into the mountains north of Los Angeles, he photographed snow scenes at all hours of the day; in bright sunlight and in shade; at high noon and at dusk; at the same time testing the various filters which he had previously developed especially for Ansco Color during earlier studio experiments.

MGM executives were so elated over the results, they sent the film to the studio's New York office for its reaction. While awaiting approval, Arnold turned his attention to solving a serious problem that arose while filming the snow scenes in the mountains. This was the matter of sluggish camera movement caused by congealed lubricant, resulting from low temperatures in cold weather.

A small electric heating unit operated by an ordinary 6-volt storage battery, was attached directly to the vital center of the camera mechanism.

Following local tests, the unit was found to work perfectly and cameras thus "winterized" were shipped to Idaho, where the second phase of this story—the actual photography of "The Wild North"—begins.

Metro-Goldwyn-Mayer chose one of its most illustrious directors of photography to photograph its first Ansco Color feature-length production—Robert Surtees, A.S.C., who won an Academy Award last year for his Technicolor photography of "King Solomon's Mines," and who subsequently was assigned to photograph "Quo Vadis" in Rome. In "The Wild North," he had another picture calling for shooting off the lot, away from the usual studio conveniences—a story calling for both summer and winter locales in rugged mountains; long sequences to be shot in snow—real snow, not studio prop stuff. Thus the frozen north became the exciting panorama against which a man hunted for murder saves the life of and nurses back to health the Mountie sent into the desolate wilderness to bring him to justice.

The winter scenes were filmed near Sun Valley, Idaho. The summer sequences, except for the rapids scenes, were photographed in the vicinity of Jackson Hole, Wyoming. Because it was impractical to ship electric generators and booster lights to these rugged location sites, Surtees had only reflectors for booster lighting. In the winter, this posed no problem because of the light reflected from the snow. But he was apprehensive at first when shooting exteriors in summer in the wooded country near Jackson Hole without booster lights. His fears were dispelled, however, when first studio bulletins on the dailies reported "perfect results." This proved that Ansco has the rare quality of 'reaching into the shadows' to bring out detail," said Surtees, "a quality possessed by no other color film."

"And speaking of quality," Surtees continued, "this was proved further when we were shooting the winter sequences in snow. Heretofore, it has been difficult to shoot action scenes in snow on location and get good photographic quality. With Ansco, after determining the stop that gave the desired...

**Warner Brothers debuts "Warnercolor"**

Warner Brothers studio unveiled its new color filming process, "Warnercolor" for the public in Hollywood, the night of February 19, when it previewed "Carson City," first feature-length production made with the new process. John Boyle, A.S.C., directed the photography.

Warner Brothers thus becomes the second major studio to install color processing facilities in its own laboratories. MGM, the first studio to convert to its own color process, will release its initial Ansco Color production this month.

Warner's process, perfected by its engineers after approximately ten years of experimentation, utilizes the new Eastman color negative of complementary type as the taking material. This is a Monopack-type stock, photographed in regular black-and-white cameras.

The studio has equipment installed in its modern laboratory for developing the negative, making of separations, and for handling the several intermediate steps between the original negative and release prints. Latter are made on the new Eastman color positive.

Despite these developments, it is reported that Warner Brothers is also exploring another Eastman color film system, which involves a color striping method developed by John Capstaff, Eastman Kodak color film expert.

Fred Gage, A.S.C., Warner Laboratory head, and Col. Nathan Levinson, WB technical engineer, are credited with the development and research that culminated in the application of the Eastman color films to the new Warnercolor system.
rendition of skin tones, the snow and other objects in the scenes registered perfectly normal—something I have not found possible with other color films. Moreover, there is none of the bluish cast of reflected skylight on the snow. Snow looks like snow in Ansco Color!"

Perhaps the most remarkable photography was the sequence of scenes shot after six-thirty one evening, just as a blizzard started. "We had just so many days to shoot," said Surtees. "We had to gamble on whatever light was available. So, we kept on shooting. To ensure getting some contrast in the scenes, I had logs and other objects protruding from the snow painted dead black. The effect secured was actually more realistic than the scenes appeared to the eye. I don't believe we could have equalled the contrast result with fast pan film."

When Surtees first started shooting in the dazzling brilliance of the snow country, the first thing he noted was the extreme readings given by his light meter—the result of light reflected from the snow. Thereafter, he followed the old reliable practice of taking a meter reading from the palm of his hand—holding the meter about 8 inches away. The result: perfect skin rendition every time.

Surtees found that Ansco Color is remarkable for its ability to produce excellent day for night shots. Using a Polar screen on the lens, and stopping the lens down a little, perfect black skies resulted without the additional use of blue filters. "Of course," he says, "you have to have the sun just right to achieve the best effect. That's one of the advantages of being able to shoot Ansco Color with a regular Mitchell camera. With the camera racked over you can see the result in the camera viewfinder through the taking lens, and compose the scene, adjust focus, and set your Polar screen at the right degree—the same as in black-and-white photography."

There are two dramatic and photographic highlights in the picture—the first, the attack of Stewart Granger and Mountie Wendell Corey by a pack of wolves. This exciting sequence was photographed by Surtees on an MGM sound stage with telling results. Here skillful lighting and camera manipulation, thanks to the remarkable characteristic of Ansco Color to render detail in low key illumination, make this a breathtaking event to watch on the screen.

The second dramatic highlight is the trip through the rapids in a canoe, when Granger exposes Corey to the same ride on the rapids he himself experienced when the man for whose murder he is being sought was shot. True to Granger's conviction, Corey, faced...
with a threat to his life, aims a shot at Granger.

This remarkable action footage was photographed by another MGM cinematographer, Harold Lipstein, A.S.C. Some of it was achieved by process photography, but for this, Lipstein also furnished the background plates.

The script called for recording the two desperate men in the canoe in closeup in order to capture the emotion in their faces contrasted with the turbulent rapids boiling all around them as they fought to keep the craft afloat. To photograph this with all the punch and reality demanded of the script, Lipstein had dolly tracks built out over the river, from the bank, so the camera could be pulled back as the canoe approached.

For still other closeup shots, Lipstein had two canoes lashed together and a platform placed across the two on which the camera was mounted. This formed a camera-dolly-on-water, which enabled the camera crew to ride the rapids just ahead of Granger and Corey—with the camera focused upon them for some of the most realistic footage in the picture.

The major advantages of the Ansco Color negative-positive process, according to Surtees, are that processing can be accomplished in the studio's own film laboratory, and that the new material makes filming a relatively lower cost operation, because standard black-and-white equipment may be used for filming and processing. Among the camera-man's advantages is the film's higher speed which makes it possible to "stop down" and thus gain depth of field and sharper definition in both foreground and background. Skin textures and color rendition in general seem a little softer—a bit on the pastel side—and more like that seen by the eye. Colors never obtrude on the scene; there are never any exaggerated blue skies or blattant reds.

With general press reviews of "The Wild North" lacking because the film has yet to be released in the United States, it is interesting to note the comment of one critic on the London Daily Herald which sums up succinctly the views also of his British contemporaries: "This sturdy film has one quality to be most highly recommended. It is shot in a new color process called Ansco Color, which is crisper, cleaner and less like strawberry jam. It made the film a pleasure for me!" END

YOU BET YOUR LIFE' TV SHOW

(Continued from Page 115)

remains little changed to this day.

The shows are photographed each Wednesday night at the NBC studios in Hollywood. Present is an audience of approximately 450 people. Seating follows a different pattern than for conventional radio and television shows in that the incline from rear of studio to stage is steeper, to give the audience an unobstructed view over the cameras and technicians working in front of the stage.

A battery of eight Mitchell 35mm cameras is used, grouped in pairs. As the show is filmed, one camera records and the other stands by, fully loaded and ready to take over when the companion camera's film supply is about to run out. The cameras are set up at different points on the stage to afford a range of camera angles for flexible cutting.

All cameras except one have 1000-foot magazines. The exception is the No. 3 camera, at the right, which carries a 2000-foot magazine and is "on" during most of the show. This master camera stops only long enough to permit changing magazines, during which time its companion camera takes over.

The switchover from one camera to another is done on a signal from Dr. Ferenz Fodor, one of the producers, who also assumes the responsibility of keeping track of the various camera operations on a cue chart. Dr. Fodor is in constant touch, via inter-com telephone, with each camera operator, the gaffer, his assistant, and the dimmer operator. A 40-foot overlap is allowed between the retiring and the replacement cameras, when it comes time to reload.

Currently being developed for the show is a unique electrical cueing device which will dispense with Dr. Fodor's cueing chore. This will put a photographic cue mark for each camera on a single master film strip synchronized with the soundtrack. It will allow each camera to shoot only as needed, and as directed, instead of continuously as at present. The time interval that each camera is shooting will be indicated on the cue track as a guide to the film cutter.

All cameras are tripod-mounted. No dollies are used at any time. The four cameras that are "on" afford sufficient variety of camera angle to allow the film cutter to edit a smooth show. Dispensing with dollies is in deference to Groucho who finds any movement between him and the audience disconcerting. Groucho believes that movement of cameras or of any equipment during the show also tends to divert the audience, lessening the show's impact. It is for this reason that the cameras and the technicians are obscured as much as possible from audience view by portable screens.

It is his carefully-devised lighting plan that is the crux of VanTree's success in photographing the show. Actually, the area that is lighted is relatively small. The focal point, of course, is Groucho Marx seated at his familiar lectern, the two contestants who stand before him, and George Fenneman the announcer. Backdropping the group is an artful arrangement of draperies, in thick folds. These are carefully lighted to give the overall scene the alternate light and dark patterns so essential for
good transmission of TV films. A roughly horizontal shadow pattern also is shown on the curtains, and this provides a dark background for the heads of Groucho, Fenneman and their guests, as seen by the camera. This is illustrated in the photo at bottom of page 115.

With few exceptions, all light units are hung from the ceiling, and are fitted with barn doors, snoots, or screens to afford the fine control of each unit that is so necessary to VanTrees’ unique lighting system. On the stage, behind the cameras, is a 12-plate dimmer bank through which all key lighting units are wired. Thus each unit is individually controlled, making it possible to raise or lower the light level during shooting, as the occasion requires.

In the beginning, VanTrees says, Groucho was adverse to strong lights striking him in the face, especially units on the floor; they interfered with his view of the audience. Groucho likes to look out on the audience frequently; in this way he gets the reaction so necessary to the timing of his ad libs. It was this factor that induced VanTrees to place all light units high, and to use dimmers on all units, especially those on the floor.

Occasionally Groucho gets an inspiration to leave his stool behind the lectern and wander over the stage. Here the camera operators must be alert, even anticipate this, in order to keep their cameras trained on him. Also, the dimmer operator must be prompt in lowering or bringing up those lights necessary to keep Groucho lit constantly as he moves about. As VanTrees puts it, “The camera crew is trained always to be on the alert, ready for any eventuality.”

An important precaution is the supply of spare lamps always kept on hand, along with a step-ladder, so immediate replacement may be made of any lamp that might burn out during progress of the show.

Adding to the problems of lighting and photographing the weekly Groucho Marx show is the fact cameras and lights must be set up anew each time, and struck after each show. This because filming the show is considered by the unions to be within the realm of studio lighting and photography jurisdiction, and outside the jurisdiction of the television crafts. Thus, members of one union are forbidden to handle the equipment of the other, even though it is on television property. The studio, in which the Groucho Marx show is produced, is also used by other radio and TV live shows on other days of the week—which explains further why lights and equipment used for the Marx show must be replaced.

Some idea of the importance given to

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the placement and light level of each illuminating unit is the fact the stage must be lit for each of the four camera units, thus to insure that the illumination is photographically correct for each camera. Obviously, this is more difficult to achieve than on the motion picture sound stage where lighting is for one camera only.

Each week when lights and cameras have been reassembled on the NBC studio stage, each lamp is checked for illumination volume with a light meter. There is a set pattern for the lights that is rarely altered except where a very tall contestant is scheduled to appear on the show.

Because the lighting on Groucho, Fenneman and the various contestants who come before him must be precise, standins assist VanTrees and his gaffers when the lights are being placed prior to the evening's show. Fully one-half hour is devoted to balancing the lights, to shading, and testing dimmer operations.

As contestants are chosen from the audience, VanTrees studies each one for any special lighting requirements; makes a mental note of the makeup needs of each, which is related to the makeup man; and instructs his dimmer operator on any unusual operations for the evening's show. All this must be done very fast and very quietly—often in less than ten minutes.

Before the show starts, there is a 20-minute "warmup" period which enables Groucho to get the "feel" of the audience and key it to the desired mood. By the time the show is ready to start, light-meter readings are again taken of the illumination, and lights are adjusted to the established level. It often happens that illumination from some light units will drop as much as 8 foot-candles between the time lamps are first lit and time for the cameras to start rolling.

In all, between 26,000 and 28,000 feet of 35mm negative is exposed by the eight cameras for each weekly show. Afterward, it goes to Consolidated Film Industries' laboratory in Hollywood for developing and printing, then to the film editor who compresses it into a compact, fast-moving 30-minute show, including the commercials.

It is generally agreed that, today, filmed TV shows—that is, films made especially for TV—are substantially better than a year ago. Images are clearer, sharper, and there is little of that extreme contrast that induced the attempts at correction by the studio monitors, which was so common earlier when most films seen on television were those made for theatres. There has developed an altogether new and different technique for lighting and photographing television film shows, and toward this achievement James VanTrees has contributed considerably. How much may be seen by tuning your TV set to Groucho Marx the next time "You Bet Your Life" is scheduled on your local NBC network station.

'OSCAR' NOMINEES

(Continued from Page 108)

Harry Stradling won an Oscar in 1945 for "The Picture of Dorian Gray." Robert Surtees won his first Oscar last year for "King Solomon's Mines." William Skall's first Oscar came to him for his photographic contribution to "Joan Of Arc." And W. Howard Greene received an Oscar in 1943 for the photography of "The Phantom Of The Opera."

Although "The Tales Of Hoffman," British Technicolor production filmed by Chris Challis, was included in the films listed in the preliminary ballots, it was eliminated in the balloting for nominations and no foreign production is a contender for an Academy photographic award this year.

Ballots for the final vote were mailed to approximately 1700 Academy members on February 26th, with deadline for balloting set for March 11th. Ballots will be tabulated by a prominent Los Angeles accounting firm, and the results kept secret until that eventful March evening when they will be revealed to the world at the Academy's presentation ceremonies.

Which Films Would You Choose?

If you were voting for the best photographed production among the ten films listed below, which picture in each class would you select? Readers are invited to pit their judgment of cinematography against the Hollywood experts in a special American Cinematographer balloting. Clip out the list of films below; place a check mark after your choice of the best photographed Color Production and best photographed Black-And-White production and mail to the Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood 28, Calif. (Those who do not wish to cut the magazine page, may send their selections by post card.) Only ballots received before March 20th will be counted.

<table>
<thead>
<tr>
<th>COLOR FILMS</th>
<th>BLACK-AND-WHITE FILMS</th>
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<tbody>
<tr>
<td>An American In Paris</td>
<td>Death Of A Salesman</td>
</tr>
<tr>
<td>David And Bathsheba</td>
<td>The Frogs</td>
</tr>
<tr>
<td>Quo Vadis</td>
<td>A Place In The Sun</td>
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<tr>
<td>Showboat</td>
<td>Strangers On A Train</td>
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<tr>
<td>When Worlds Collide</td>
<td>A Street Car Named Desire</td>
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Obviously, it is difficult for those in the motion picture industry to see every motion picture Hollywood turns out each year. However, so that Academy members would have opportunity to see those pictures they had missed, all of the nominated films were screened over a period of two weeks at the Academy's theatre, beginning February 17, with showings both afternoons and evenings.

Of the twelve men whose cinematographic artistry has been nominated for the 1952 Awards, six previously have won Oscars for photographic achievement. Leon Shamroy, whose "David And Bathsheba" is a nominee this year in the color class, won an Oscar in 1942 for "The Black Swan," in 1944 for "Wilson," and again in 1945 for "Leave Her To Heaven."

Charles Rosher, nominated this year for photography of "Showboat," won his first Oscar in 1928 for "Sunrise," and his second Oscar in 1946 for "The Yearling"—all Technicolor productions. END
Following this technique, the amateur cine photographer is limited only by his imagination and ingenuity in “dreaming up” cinematic tricks which he can thus create with his camera. Some examples of reverse action effects which the amateur may use in testing his trick filming ability are described below:

1—Man reclining in lawn chair. His pipe appears coming toward him out of thin air. He catches it, puts it into his mouth, and puffs contentedly. (Shot in reverse action with man smoking pipe, then throwing it out on the lawn beyond range of the camera.)

2—Man decides to sprinkle lawn. Sits in lawn chair and the hose jumps into his hand as water starts flowing. (Shot in reverse action with man sprinkling lawn while seated in chair. Water is turned off by an assistant just before he throws hose down on lawn.)

3—The man’s command of magic is next demonstrated when he sits down to relax and read, and his folded newspaper appears flying out of nowhere and into his hand. (Shot in reverse with man reading paper, then throwing it out of camera range.)

4—An effective automobile accident scene can be photographed thus: arrange a boy and his bicycle lying on pavement in front of an automobile in which is seated the driver. Have driver set gear in reverse, and hold clutch out. At a given signal, driver registers horror (as though he has just struck boy) and lets out clutch sharply, setting automobile in reverse motion. As car moves away, boy gets up from pavement and starts to get on bicycle. Photographed with camera upside down, on the screen this action will appear in reverse—the automobile striking the boy and knocking him to pavement. Very close cutting is necessary in the editing to enhance the effect.

Variations of these scenes can be worked out and adapted by the amateur to his specific films. As he perfects the technique, he can include more elaborate reverse action scenes in movies written especially for members of his family and friends. Such effects also have unlimited possibilities for pepping up vacation and travel movies, giving a bright, humorous touch to what might otherwise be routine movie records of interest only to one’s immediate family.

The gadget necessary for mounting one’s camera upside down on a tripod is quite simple to build—one most any amateur can make in his garage workshop. It consists of an extension bracket for the tripod with provision for bolting the camera in upside down position. The one illustrated in the photo at bottom of page 118 (and diagrammed immediately above it) consists of a length of 3/4-inch strap iron, 2 inches wide and 12 inches...
B & H MAGNETIC RECORDER-PROJECTOR

(Continued from Page 112)

excellent tool with which the industrial film producer can lay the groundwork for selling prospective clients on the use of 16mm films. It will make it easier for him to convince prospects of the effectiveness of sound motion pictures. By choosing a film of a general nature, and adding an off-stage commentary by magnetic recording, a personalized sales presentation can be aimed directly at the prospective film buyer.

The same technique can be applied to regular sound optical releases for general distribution. Since the recorder-projector plays either optical sound or magnetic sound at the flick of a lever, a magnetically recorded leader or title may be added to optical sound prints, carrying an introduction addressed directly to the local group of the moment.

The introduction can then be re-recorded and aimed directly at the next group to view the picture. This personalized touch enhances the effectiveness of the picture and adds a supplementary impact to the film.

In the sound recording laboratory, the professional producer will find that the new Bell & Howell recorder-projector will help cut production costs. It is axiomatic that a motion picture production is never recorded according to the original script. The narration invariably is changed extensively before the final recording is approved.

Edited work prints can now have the narrative tailored to fit the photo production. Since instantaneous play-back magnetic recordings are always synchronized with the scene, all changes in the master script can be made in the work print before getting the client's approval on the final script. Trial sound tracks can be made. Superfluous copy can be omitted. New information can be added or complete sequences revised to aid in transitions.

Bell & Howell's newly-developed striping process is called Soundstripe.

Applying the magnetic coating over one-half the sound track area offers interesting possibilities. A film having a multi-lateral variable-area or a variable-density optical track may be coated with Soundstripe magnetic oxide along the perforated edge in such a manner as to retain the optical recording. Thus the one film serves a dual purpose: the optical track bears the permanent recording, while the magnetic track may be used to record a temporary or a different message. Thus, half-track recording opens new fields of utilization for export use, industry and educational purposes.

Operating engineers who use this machine will be interested in its extraordinary functional features, which include instantaneous reverse projection—a variable aid when editing magnetic sound track or re-recording a single scene; a clutch and a manual drive knob for single-frame viewing, so that exact frames may be selected for cueing; a safety interlock to prevent accidental erasure of the magnetic recording; identical film threading for either magnetic or optical sound; and a compact magnetic reproducing unit which combines the erase head and the record-playback head on a single mounting guilt.

Operation is simple. Changing from magnetic sound to optical sound is accomplished by shunting the magnetic heads out of place and the optical mirror into place by means of a simple lever. The electrical change-over is performed by a function selector switch which can be instantly set to "optical play," "magnetic play" or "magnetic record."

Sound editing is done in much the same manner as with home tape recorders. The record-playback heads are mounted on a single plate behind the sound drum, and spaced approximately two 16mm frames apart. Erasing and recording is done simultaneously with the erase head placed adjacent to the record head, and cueing is simplified.

A revolutionary device that enables cine camerists to look through various types of movie lenses and actually see the picture they would get with a particular lens, has been developed by Bausch & Lomb Optical Company.

Known as the Animar Lens Demonstrator, the unique optical instrument is similar in design to a simple telescope, with the addition of a revolving turret that accommodates three 8mm or 16mm lenses at a time. By focusing on any subject and revolving the turret from lens to lens, one can see in a matter of seconds how a telephoto lens, for example, will give a different picture from a wide-angle lens. Similar "look-see" comparisons may be made of a high-speed lens and a "normal" lens.

At the same time, the intriguing 10-second tests which are presented in a booklet accompanying the instrument, afford valuable pointers on such things as field coverage, magnification, depth of field, filter effects, the effect of lens stops on exposure, and other lens performance fundamentals.

Cine Lens Comparator

Shows areas covered by different lenses

Several hundred demonstrators, which may be mounted on a standard movie camera tripod or held in the hand, have been produced for leading camera and lens dealers in the U.S., and will, according to George G. Tschume, of Bausch & Lomb's Scientific Instrument Division, "eliminate much of the mystery of technical terminology previously required to explain various lens performance features to the average movie maker."
since the same cue marks can be used for erasing or recording.

The safety interlock arrangement prevents unintentional erasure, or recording. Recordings can be made only when the record button is pressed, after the motor switch has been turned on. At any time the motor is reversed or turned off, the interlock system is automatically disengaged, and must then be reset to make a new recording. The interlock button cannot be set when the motor is running in reverse.

This feature combines foolproof operation when editing plus a positive means of cutting the sound recording instantly, accomplished by the flick of a toggle switch. The same switches control the motor and the interlock. The audio signal and the bias-erase current are cut off, even before the film itself comes to a dead stop.

All the necessary electronic circuits are included in the amplifier. Extraneous mixers, oscillators, cables and pre-amplifiers are not needed. All that is required is a microphone (comes as standard equipment) and a phonograph (for background music when desired).

Miniature tubes are used throughout the amplifier except for the photoelectric cell and the rectifier. Circuits are arranged to perform all electronic functions at the turn of a three-position, three-deck selector switch.

Just a few brief rules need to be remembered to make a magnetic recording with the Bell & Howell recorder-projector. With the amplifier turned on and the film threaded, the selective lever is set to magnetic position, and the selector switch to “magnetic record.” The clutch disengaged, the motor is switched to “on” or “forward,” either at 16 or 24 frames per second. The recording level is adjusted so that the neon indicator flashes intermittently. After engaging the clutch, the film is allowed to run for about three seconds to give the stabilizer time to take hold. The machine is then ready to record.

Bell & Howell Company’s Soundstripe service, which adds the magnetic stripe to films costs 31/2c per foot. Old silent films exposed at 16 frames, and having double perforations, per second can be copied on single-perforated stock and then striped by the company for magnetic recording. The Bell & Howell recorder-projector plays and records magnetic sound at either 16 or 24 frames per second.

Pictures made on single-perforated 16mm film can be Soundstriped immediately after processing. With the advent of sound recording projectors, it is expected that film manufacturers soon will make pre-coated 16mm film stock available, both in black-and-white and color.
RESOLVING POWER TEST CHART

(Continued from Page 111)

In the course of the investigation, striking examples of "false resolving power" were found when the original high-contrast master chart was used as a target. It was discovered that this effect was caused by overlapping of the out-of-focus images of elements of the target. In testing lenses, the possibility of such spurious resolution should not be overlooked. Because of the curvature of the field, some portion of the photographic plate is almost sure to be out of focus—and quite possibly by enough to cause false resolution.


STEREO MOTION PICTURES

(Continued from Page 110)

on exhibition at the Festival of Britain. According to press reports, it is also the same system which has been demonstrated by Natural Vision Corp. of Hollywood.

Systems for stereoscopic films using dual images side by side or one above the other have also been proposed. One of the problems in the two-image arrangement, whether in tandem or side by side, is the loss of light, because the light-covering circle covers a large area around the area occupied by the two images.

The ordinary circular light spot from the projector arc spills light all around the images. This condition can be improved upon by a light condensing system having a cylindrical lens element. Then the light spot becomes oval instead of round.

Another method is to introduce an optical device on the camera to compress the images in one direction, and a similar device on the projector to expand them back to normal proportions. Such an optical device is called an "anamorphoser." Several types have been constructed, but it remained for Dr. H. Sidney Newcomer to design one that does not introduce serious aberrations and have other optical handicaps. The Newcomer Anamorphoser is capable of effecting a compression of the image to almost 2/3 and an expansion of about 1 1/2 times.

Among the methods suggested for the employment of a single film to carry the two images in the "heliograph" in one form or another, the device has two pairs of mirrors placed in front of the lens and arranged so that the pair on the left will cause the left-eye image to be selected for projection to the screen and the right-hand pair will do the same for the right-eye image.

The beam-splitter is a device that does exactly what its name implies—it splits the light beam into two parts. Hence, the intensity of each part cannot be greater than half of the whole beam. It is a simple device and easy to use. But in addition to light loss, it has another drawback. The pictures overlap considerably, making it impossible to mask them to a stereoscopic window. The window must be artificially produced by a black border on the screen, usually of velvet, to absorb spill-over light. Another shortcoming: The camera lens works at something less than half the F stop setting shown on the lens. This means more than twice the amount of light required for conventional photography.

When it comes to shooting interiors, this added light requirement proves to be an economic disadvantage of the beam splitter method. There is a corresponding light loss in projection, and here the loss is even more significant. Take the loss inherent in the beam splitter, add that to the loss in polarization, and you find that you're getting about one-twelfth the light that you had when you projected the full frame in the conventional way.

Another disadvantage of the beam-splitter is the picture proportions it gives. If the narrower width is certainly inappropriate for stereoscopic representation which is so well suited for panoramic views.

Another proposed device has dual lenses producing square pictures side by side. There is no light loss in the camera, since two lenses are used and the window for each picture is quite sharp. However, there is considerable loss in projection if the attachment is used on a projector not provided with a special condenser system. If the standard proportions are retained, each image is less than one-fourth the area of the full frame.

Another method which has been proposed for simultaneous projection, is the arrangement of images with one member above the other. Special projectors would be required.

From time to time, the alternate projection of the members of a stereo pair has also been proposed. In this system, the right eye image, for instance, is projected first, then the shutter interrupts the light beam while the film moves
down to position the left eye image. Thus there are periods of flicker that occur at different times for each eye.

If we break this sequence of events down, we find that the first light period has a value of 12.5% of the complete picture cycle. The flicker blade on the projector shutter (considering a two-bladed shutter) gives a dark period lasting 12.5% to be followed by a light period of the same, then a long dark period consuming 62.5% for pull-down and eclipse to permit the other eye to see its image.

If standard sound-film speed of 24 frames a second is used, the resulting flicker is very annoying. Stepping up the projection to 48 frames a second increases flicker frequency twice, but it still is noticeable.

There is a physiological effect that is likely to become disagreeably apparent—usually headache or nausea—after a few minutes of viewing pictures projected in this way. A complete period of darkness for one eye, while light reaches the other, will probably always result in visual fatigue, if not in nausea, no matter how high within workable limits, the flicker frequency is brought.

Flicker of low frequency calls for traction on the control muscles of the irises when bright light enters one or both eyes. The rapid occurrence of the transmission of stimuli, first from one eye, then from the other, and the motor messages from the brain to the muscles, delivered in rapid sequence, probably accounts, in part, for the visual discomfort experienced by most people when viewing “eclipse” stereo movies.

Perception of flicker depends upon the intensity of the interrupted light, as well as the flicker frequency. The more intense the light, the higher the frequency must go before flicker fusion is attained. Also, the larger the angular field over which flicker is distributed, the greater the consciousness of flicker. Hence the dimmer the picture and the smaller it is, the lower becomes the flicker fusion frequency.

There are two ways to project and view eclipse stereograms. One is by using rotating or vibrating shutter devices held up in front of the eyes. These are synchronized electrically with the projector. The other method is to employ a rotating polarizer in front of the projector lens and polarizing spectacles for the viewer. In one position the polarizer delivers light through the left spectacle filter, in the other through the right filter.

Alternate frame, or eclipse, projection must have twice the number of frames required for conventional films. That means doubling the length and providing for faster projection speed. If the alternate frames are photo-
STEREO MOTION PICTURES
(Continued from Page 131)

graphed alternately, there is a very objectionable fringing in pictures of moving objects. This is a cause of eyestrain, especially in a picture where the action seen by one eye is in quite a different stage of progress than the action seen by the other. Difficulty in fusion invariably results. This combination of disturbing effects caused by flickers out of phase between the eyes and by fusion trouble, limits the appreciation of the eclipse method.

Complete visual comfort can be attained in stereo movies only if the two images are projected simultaneously, if they are rock steady, if they are of equal brightness, if they are of equal contrast, if they are properly aligned vertically and horizontally, if far distant points are not separated too far in one image from that of the other, and if they are of exactly the same size.

1951-52 AWARDS
(Continued from Page 104)

Arthur Freed, the producer, and for all the artists and technicians who contributed in its making. For his part in directing the photography, Charles Rosher, A.S.C., received a Photoplay Gold Medal, duly engraved to commemorate the award. Rosher also is in the Academy Awards running this year for the photography of the same picture.

During the year, still other organizations cite the motion picture industry for its most outstanding productions—usually with an award to the producer of the “best motion picture” and to the stars of that picture. It goes without saying that in each instance, a goodly measure of credit also is due the men who direct the photography of such pictures, for without their contribution in artistry and skill, the productions very likely would not have the screen appeal necessary for award-winning pictures.

NO MAGIC FORMULAS
(Continued from Page 109)

In selecting a story, a producer must pioneer, not play a game of follow the leader. He must make the picture with showmanship ingredients, and recognize and understand quality, which is something every success must have.

A good piece of screen material is one that contains pioneering in either story or background and can be done with showmanship. To make a formula showmanship picture is as bad a mistake as trying to make a straight artistic triumph.

There are no magic formulas for making a hit, but the formula for making a flop is a simple one: do the same story, with the same cast, and sell in the same way with the same trite ads.

Before I buy a story, I ask myself nine questions. As a producer, I’ve bought many stories and this works for me. It may not work for other producers. Here are the questions:

1. Does the story have audience appeal?
2. Can I build audience anticipation for my film?
3. Will there be any audience resistance to the story?
4. To what type audience would the picture appeal?
5. What basic emotions does it display?
6. How can I sell the picture to the public?
7. What personalities should go into it?
8. Do I have to overcome any basic production problems?
9. What does the story have that no other story has had before?

Many movies today have forgotten the value of entertainment. They’ve gone into madness, class conflict, etc. They want to be significant but in the process have lost the art of delighting audiences. I’m not trying to say that every picture made should be a light and airy comedy—far from it—but I do mean that movie-goers should be enchanted and entertained. That I try to achieve in every one of my pictures.
location, too. It was of ample size to accommodate shelves and tables necessary for permanent installation of my sound projector, record player, films, and editing equipment—and also allow enough room for me to work with the equipment.

The accompanying photographs show how all this was accomplished, and may give other amateurs with a similar problem some helpful ideas toward its solution.

**BULLETIN BOARD**

(Continued from Page 98)

Final voting on all Academy Awards is now in progress. Deadline for ballots is Tuesday, March 11. Awards presentation will be held evening of March 20th, at RKO-Pantages theatre in Hollywood.

Y. Frank Freeman, Paramount studio head, recently told Federal Communications Commissioners in Washington that studio camera developments have not kept pace with other technical improvements, adding that he has constantly fought for better lighting. New type lamps used on “Greatest Show On Earth” are examples of recently improved Paramount set lighting equipment.

Paramount script writers reportedly will henceforth omit in scripts any instructions on camera angles, operation, etc.

Type of shots is to be left entirely to the discretion of cameraman and the director on the set.

William J. German, head of national Eastman professional film distributorship which bears his name, was inducted as chief barker of the Variety Club of New York Tent No. 35, on February 19th.

Irving Hoffman, Hollywood Reporter columnist, reports: "When cameraman Bob Surtees was giving East Africa the photographic once-over (for 'King Solomon's Mines'), a native chief from one of the villages approached him with a glint in his eye. The old boy had a wife to sell and thought Bob would be interested, 'She's still young,' the chief explained, 'she's had only five kids, she can still do a good day's work.' And her price, special for that day, was only TWO cows.

"Bob nixed the deal as quickly as he could. 'I don't have a cow to my name,' he said with regret.

"The old chief was flabbergasted. For weeks he couldn't figure out why he had't sold American. Then he ran wildly around and told everyone in the radius of six tom-toms: 'It big lie. Americans no rich at all. I meet one. He own not even one cow!!'

March Of Dimes last month was made richer by $224.15. Amount was contributed by A.S.C. members at the Society's February dinner-meeting.

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**The WINNERS**

in

American Cinematographer's

1952 AMATEUR MOTION PICTURE COMPETITION

Will Be Announced

in the

MAY ISSUE

of

American Cinematographer
The ONE-STOP SHOP

Here, under one roof, you will find all your needs for making, producing and showing motion picture films... and at the usual worthwhile S.O.S. saving in price. Try us, and see!

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• Film Lab Equip.
• Film Printing Machines
• Film Splicers
• Film Storage Cabinets
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Dept. F, 602 West 52nd St., New York 19

Send for these "BOOKLETS"

KODAK WRATTEN FILTERS — For laboratory workers in fields where complete spectrophotometric data is essential to accurate results, the Eastman Kodak Company has just issued a revised Kodak Data Book, "Kodak Wratten Filters For Scientific And Technical Use."

New book contains the material of the previous Kodak publication, "Watten Light Filters," thoroughly revised with the addition of complete data on Kodak Light Balancing and Color Compensating Filters. A spectrophotometric curve, a percent-transmittance table, and a data on luminous transmittance, dominant wavelength, excitation purity, and stability are given for each filter. The list numbers over a hundred filters which have applications in black-and-white and color photography, and other fields of science.

The text discusses forms and types of filters, their standards, the uses of specific filters and the care of filters in general. Also included are filter factor and density-transmittance tables.

Booklet is available from Kodak dealers at 75c per copy.

DUPONT FILMS — "DuPont Photographic Films" is title of new booklet offered by the Photo Products Department of the DuPont corporation. Intended to acquaint users of DuPont sheet films with their working characteristics and the uses and advantages of the various emulsions, booklet also supplies data on exposure and processing. It also contains some general information about modern photographic methods and techniques aimed at assisting the photographer in evaluating his own procedures.

Available at photographic stores throughout the country, price of booklet is 50c.

ANSCO ABSTRACTS — Originally intended solely for use by Ansco's research department, one of the best sources of the most up-to-date information on photographic technical developments, literature references, new literature and new patents, is being published by the Library of the Research Dept. of Ansco, Binghamton, N. Y.

"Anasco Abstracts," a complete monthly review of technical literature, is produced in mimeographed form to permit inclusion of the latest information — often as close as a few days after it becomes available.

"Anasco Abstracts" covers the various aspects of photography, including physics and chemistry, graphic arts, purely photographic items, and applications of photographic principles in television, radiography, medicine, etc.

Patents are listed and reviewed in a separate section. Quarterly numerical listings of equipment patents are also part of the service rendered. A complete author index is issued at close of each year.

Now in its 11th year, "Anasco Abstracts" is obtainable for $5.00 per year. Sample copies available free.

CINE FILM PROJECTION — "More Brilliant Projection" is title of interesting booklet available free from Radiant Manufacturing Corp., 1204 So. Talman Ave., Chicago 8, Ill.

Booklet is a detailed analysis of many projection problems that regularly confront those who screen 8mm and 16mm movies. It concerns itself with the goal of every movie enthusiast — perfect projection.

The most up-to-date technical data is interpreted into easy-to-read, easily understood language. Booklet provides an excellent grounding on the subject of projectors, lenses, seating arrangements, screens, reflection, and showmanship.

FOR BETTER LIGHTED PICTURES — A new edition of the booklet, "G-E Photo Lamp Data," has been announced by Lamp Department, General Electric Company, Nela Park, Cleveland, Ohio.

A handy guide for professional and amateur photographers, the revised booklet contains complete new tables providing the correct photographic exposure when using G-E photoflood and photoflash lamps.

The new values have been arrived at by test methods established by the American Standards Association. In general they call for more exposure than was previously recommended. The tables are more detailed than previous ones in listing of film speed ratings and shutter speeds, and also give guide numbers for both polished and satin-finished reflectors. Booklet also includes table of latest film speed ratings, a revision of G-E photoflash time-light data, and listings of 3200° K and 3535° K lamps for color photography.

Booklet is available through photographic dealers or from G-E's Inquiry Bureau, Nela Park, Cleveland 12, Ohio.

COLOR MOVIE MAKING — A mere nickel buys a most helpful and informative booklet on this subject. Published by
Bell & Howell Company, Chicago, Ill., “Tips On Color Movie Making” contains much detailed information aimed at improving the color movie making of both the beginning and the advanced amateur movie maker.

Chapters deal with equipment, filters, exposure, and how to gauge exposures for best color results when shooting at the beach, mountains, filming landscapes, closeups, etc. Specific problems of both indoor and outdoor movie making are treated informatively and concisely, making this a valuable booklet to tuck away in your camera case and keep it there for ready reference at all times.

Copies are available at camera stores handling Bell & Howell equipment, or may be ordered direct from the company whose address is 7100 McCormick Road, Chicago 45, Ill. 

COLOR PHOTOGRAPHY — “Color Photography Made Easy” is a new booklet written especially for the still photographer and published by Ansco, Binghamton, New York. This new edition of Ansco’s valuable booklet on color photography also will find interest among amateur movie makers. It is 7 1/2 by 5 1/2 inches in size, and is replete with numerous illustrations in full color.

Booklet covers all aspects of indoor and outdoor color photography, both still and movies, discusses color prints made from transparencies on Prinax, includes data, both basic and advanced (in separate sections) relating to filters and their uses, exposure and exposure meters, lighting and processing equipment and techniques; lists complete information on developing and printing; gives the requirements for good color photography including the latest techniques.

It also discusses color temperature control, portrait lighting, makeup, news photography, copy work, biological photography, photomicrography, mentions the cameras suitable for color work, and contains flash and exposure guides.

For the advanced photographer, technical information describes the structure of Ansco Color films and how they work; color formation in the film; how to correct improperly exposed film by selective reducing; salvaging of transparencies; the making of black-and-whites and dupes from color transparencies and similar valuable information.

Booklet is available at camera stores everywhere at 50c per copy.

50,000 Motion Pictures, 1912 to 1940!

The Library of Congress has issued a monumental 1,156-page catalog that lists more than 50,000 motion pictures registered in the Copyright Office from 1912 through 1939. Entitled “Motion Pictures, 1912-1939,” the catalog contains much information that hitherto has been available only after prolonged research in the files of the Government Copyright Office.

As time passes and old producing companies and their films are forgotten, this volume will become increasingly valuable as a reference book on films and film history. The information given about each film includes, insofar as possible, the title, date, producing company, sponsor, information about the published work on which the film was based, physical description, credits, claimant and data of copyright, and the author of the film story. The material for the entries, which are listed alphabetically, was obtained mainly from the record books of the Copyright Office, the original applications for the registration of the copyright claims, and descriptive material that was supplied at the time the films were registered.

The cumulative catalog has a 268-page index, which lists the individuals and organizations associated with each motion picture, and a “Series List,” which provides the name of the copyright claimant and the title and date for each motion picture of a series. Any particular film may be located in a variety of ways — by title, producing company, copyright claimant, alternate title, name of the work on which the film was based, series title, author of the film story, sponsor, and releasing or distributing agents.

“Motion Pictures, 1912-1939” is the first publication in the cumulative series of the Catalog of Copyright Entries. Work has started on a supplementary volume that will cover motion pictures copyrighted in the years 1940 to 1949. These two cumulative volumes and the subsequent semiannual issues of Motion Pictures and Filmstrips in the regular series of the Catalog of Copyright Entries will constitute a comprehensive bibliography of United States motion pictures from 1912 to date.

The volume, which is buckram-bound, is for sale by the Copyright Office, Library of Congress, Washington 25, D.C., for $18 a copy.

EVER try locating an article you saw in an earlier issue of American Cinematographer? A quick means of finding such articles is the Annual Index which appears in the back of the December issue each year.

March, 1952 • American Cinematographer • 135
Columbia
- Frank Planer, "The 5000 Fingers Of Dr. T." with Peter Lind Hayes, Mary Healy, Tommy Rettig, Hans Conried, Bob and Jack Hesley. Roy Rowland, director.

Independent
- Jack Russell, "Park Row," with Gene Evans and Mary Welsh, Samuel Fuller, producer-director.

M-G-M
- William Daniels, "Pat And Mike," with Spencer Tracy and Katherine Hepburn. George Cukor, director.

Paramount
- John F. Seitz, "Rotary Bay," (Color) with Alan Ladd, James Mason, Patricia Medina, Murray Matheson, Dorothy Paton, John Farrow, director.

AMERICAN SOCIETY
OF CINEMATOGRAPHERS
FOUNDED January 6, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

Officers and Board of Governors
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- George Barnes
- Lee Garmes
- Charles Lang
- James Wong Howe
- Sidney Hickox
- Joseph Biroc
- Robert de Grasse
- Byron Haskin, director.
- Ray Rennahan, "Hurricane Smith," (Technicolor) with Marle and Gower Champion, Dennis O'Keefe, Monica Lewis and Dean Miller. Robert Z. Leonard, director.

Paramount (Continued)
- Joseph Broc
  Paul Eagle
  Stanley Horsley
  Ernest Laszlo
  Ernest Miller
  Nicholas Musuraca
  Joseph Ruttenberg
  Walter Strange
  Robert De Grasse
  Gene Folsom
  Alfred Gilks
  Victor Kraner
  Sol Polito
  Leon Shamroy
  Walter Strange
  Phil Tannura

- Ray Rennahan, "Hurricane Smith," (Technicolor) with Marle and Gower Champion, Dennis O'Keefe, Monica Lewis and Dean Miller. Robert Z. Leonard, director.

Universal-International
- Russell Metty, "Against All Flags," (Color) with Errol Flynn and Maureen O'Hara. George Sherman, director.

Warner Brothers

NOTE: Names of A.S.C. Directors of Photography who were engaged in the photography of films for television last month will be found in the "Television Production column" on page 115.
WHAT'S NEW

in equipment, accessories, service

PRECISION LAB MOVES—Continued expansion in manufacturing and rebuilding editing and laboratory equipment for the motion picture and television industries has resulted in move to new and larger quarters by Precision Laboratories. Formerly located at 1947 Broadway, firm's new address is 244 West 65th Street. Additional facilities now makes it possible for Precision Laboratories to make available its extensive engineering and laboratory departments for the developing and building of special equipment.

HANDBOOK IN NEW PRINTING—Jackson J. Rose, A.S.C., publisher of the American Cinematographer Handbook and Reference Guide announces a new printing of this valuable reference book now off the press. Continued popularity of the Handbook all over the world rapidly exhausted the previous recent printing. Used by professional cameramen in all the major studios, book also is important reference work for students in Universities having classes in cinematography. Containing hundreds of quick reference charts for both cinematographer and film lab worker, book is on sale at offices of American Cinematographer, 1782 No. Orange Drive, Hollywood 28, and in major camera supply stores throughout the U. S.

NEW VICTOR SOUND PROJECTOR—VictorAnimatograph Corp., Davenport, Iowa, announces a new light-weight 16mm sound projector suitable for showing films to audiences ranging from conference size to several hundred.

Known as Model 60-4, projector incorporates all the famous Victor features, including safety film trip, dual-flexo pawls, 180-degree swing-out lens mount, large single-drive sprocket, instant-tilt, and fingertip controlled rewind.

Projector operates at either 16 or 24 fps, provides still pictures and reverse operation, and has a 750-watt projector lamp. Amplifier has output of 4 watts. There is provision for plugging in either a microphone or record player. With 9-inch speaker, price is $395.00. With 12-inch speaker in separate case, price is $417.00.

NAT'L. CINE EQUIPMENT MOVES—Out-growing their quarters at 29 West 22nd St., New York City, National Cine Equipment, Inc., last month moved to new and larger quarters at 209 West 43th Street.

Company is one of nation's largest distributors of motion picture and television equipment and accessories.

MAGNETIC HEADS FOR PROJECTORS — Stancil-Hoffman Corp., 1016 No. Highland Ave., Hollywood 38, offers a new, compact miniature magnetic head for use in adapting 16mm sound projectors to record and play back 16mm sound-striped films. Head is finding wide popularity among engineers engaged in adapting various make 16mm projectors to use magnetic sound.

Company also is developing a complete kit which will enable owners of popular make 16mm sound projectors to convert them for magnetic sound recording and play back.

For those who wish to experiment and who wish to buy just the head without the mounting facilities or amplifiers, price is $32.50, including 12-inch leads. Company also offers an excellent erase head for $57.50.

ANSCO 828 ROLL FILM—Ansco, Binghamton, New York, announces the company's black-and-white and color roll films are now available in the 828 size. The Daylight Type color film has an ASA speed rating of 10; Ansco Supreme is rated 50 ASA for daylight, tungsten 32 ASA. Prices of Ansco Color film in 828 size is 98c per roll, and for Ansco Supreme, 48c.

FUMES ELIMINATOR — DuPont, Wilmington, Delaware, announces an improvement in the formula of its 18-F Universal Fixer that eliminates the acrid fumes usually associated with acid hypo solutions. 18-F is a single-powder hardening fixer for all types of photographic films and papers, which the manufacturer claims has the added advantage of mixing ease and long service life. Product is now available in photographic stores throughout the country.

EXPOSURE CALCULATOR — Mayfair Mfg. Co., 55 Eckford St., Brooklyn 22, N.Y., makers of Mayfair photolamp units which clamp to cine cameras, announces a new dial type exposure calculator for amateur indoor movies and still photography.

The calculator, which is included free with each Mayfair light unit, affords a quick and simple way to arrive at the correct indoor exposure. It shows proper exposure for every lens setting from f/1.4 to f/22 at speeds of 1/2 second to 1/500 second.

THERE'S QUALITY

16mm SOUND

The finest equipment plus top technical skill gives you the brilliant, tone-true track that will result in wider distribution and more bookings for your picture. Let us prove Telefilm recording can benefit you.

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March, 1952 • American Cinematographer • 137
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EYEM 16, 12"-12,5 Cooke, case...$195.00
EYEM, 10, 7.5"-12.5 Cooke, case...$125.00
EYEM 16MM, tripod, like new...$82.50
AC 24...$155.00
F-B folding mike boom, 18 ft., ext., used...$227.50
CHINON, 25mm f/1.9 coated, 15mm, 15" f/1.7...$445.00
ANIMATION STAND, complete...$1,450.00
PRI 16MM PROJECTOR, portable 35mm, silent...$95.00
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SOUND READER, magnetic, used...$162.50

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Audio Akeley single system sound camera complete with Akeley sound head—Lyle tripod, 3 lenses, view finder, Maurer mixing amplifier. Complete with cables, power supply and WE machine. Excellent condition. All new rollers, reobj. finder, case $217.50. Last but not least, 4" Dallmeyer F:4, case $117.50. Zeiss 16mm Cine Kodak Special, 15mm Kodak F:2.7, 25mm Kodak F:2.7, 50mm and 100mm Astro lenses, cases, excellent operating condition...$2,750.00

Colortron "2000" kit used, complete...$109.50
All new Colortron units available immediately.

DIPLOMAT silent projector and case...$149.50
Easton Kodak variable speed motor for Cine-Special, like new...$350.00

SOUND RECORDING at a reasonable cost. High fidelity 16 or 35mm, brand new at used price $275.00, negative 510/" per hour, all accessories. List over $1,500.00...$2,650.00

New pathe super 16 camera, reflex focusing, available for immediate delivery...$395.00

Auricon...$75.00
Halley B-2 magnetic recorder...$1,500.00

CeCo three-wheeler, fully equipped...$225.00

Bolis-Scheclama 35mm Studio camera, 220-volt sync motor, 3-400" mags. Mitchell viewfinder and tripod, 28, 50, 100mm Astro lenses, cases, excellent operating condition...$2,750.00

Colortron "2000" kit used, complete...$109.50
All new Colortron units available immediately.

Diplomat 16 silent projector and case...$149.50
Easton Kodak variable speed motor for Cine-Special, like new...$350.00

Auricon sync motor for Cine-Special...$159.50

New arriflex 15mm camera, 400" magazines, zeiss lenses, tripod, batteries, available immediately...

The camera Mart, Inc.
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Berthot Pan Ciner—Semiprofessional zoom lens for 16mm—range 20mm to 60mm—coupled parallax—corrected finder—all elements coated—F:2.8 lightweight, focus thru 2" needle sharp—Available immediately on order.

Also some 16mm and Angenieux lenses.

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Easton Kodak variable speed motor for Cine-Special, like new...$350.00

Auricon sync motor for Cine-Special...$159.50

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Also some 16mm and Angenieux lenses.

THE CAMERA MART, INC.
1845 Broadway, New York 23, N. Y., Circle 6-0930

STUDIO & PROD. EQUIP.

SPECIALS FROM S.O.S.—THE FOLLOWING: 16mm Cameraman; Motion Picture Writer; Film Editor. For work with Evangelical Christian Service Organization. Experience in Nature Subjects desirable. Write today. Kelly I. Choda, Box 5, Los Angeles 25, California.

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New eyemos (single lens and turret), Mitchell, Arriflex, De Bries, 60/35mm and 16mm cameras, Tripods, lenses, projectors, motors, recorders, lights, printers, developers, etc.

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WANTED: the following: 16mm Cameraman; Motion Picture Writer; Film Editor. For work with Evangelical Christian Service Organization. Experience in Nature Subjects desirable. Write Kelly I. Choda, Box 5, Los Angeles 25, California.

Camera & Sound Men

New England — assignments or production, sound, 16 and 35mm equipment. Samuel Kravitt, 1056 Chapel St., New Haven, Conn.

Slides, Photos & Films

Natural color slides, scenic, national parks, cities, animals, flowers, etc. Set of eight $1.95. Sample list 25c. Slides—Box 206, La Habra, Calif.

Frustrated photographers! Fill the gaps in your vacation Kodachrome record. Choose from 1,000 travel scenes. Free List, sample, 30c. Write today. Kelly I. Choda, Box 5, Los Alamos, New Mexico.

Alaskan footage—16mm Kodachrome for professional productions. Eskimos, Indians, landscapes, etc., written description, personal background and experience. Ardis and Hi-speeds, 16mm and 35mm, All Areas, Machetanz Productions, Kenosha, Wis.

Laboratory & Sound


March, 1952
Inside New York—50 years ago...

Re-creating a corner of old New York for the theater is a stage designer’s problem.

But re-creating it so that the color camera will see it and the sound camera hear it as the eye saw it and the ear heard it 50 years ago is quite another story.

It is in reducing problems of this character that the Eastman Technical Service is of great service. Their representatives collaborate with studio technicians; they scrutinize the scenery, establish light and color balances; they help select type of film, color or black-and-white, best to use. Special laboratory procedures, too, may be worked out to ensure precise processing—all to make sure that every foot of film produces best results.

To maintain this service, the Eastman Kodak Company has branches at strategic centers... invites inquiry on all phases of film use from all members of the industry. Address:

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Rochester 4, N. Y.

East Coast Division
242 Madison Avenue, New York 17, N. Y.

Midwest Division
137 North Wabash Avenue, Chicago 2, Illinois

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6706 Santa Monica Blvd., Hollywood 38, California
Bell & Howell makes 8mm camera news!

The NEW 134 W at just $79.95!

The “W” stands for WONDERFUL!

WONDERFUL because it has all of these built-in features:
- 0.5" f/2.5 Filmcoated lens
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new low prices on these famous “8’s”!

134V was $109.95  NOW $89.95

This is the popular 8mm camera with all of the features of the new “134W”... plus the additional versatility of a fifth speed for true slow motion, and a single frame release for time lapse and animation effects. A great camera—easy and economical to use, compact in design, built for greater accuracy—now at a new low price.

134TA was $149.95  NOW $129.95

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• 1951 Academy Awards Winners
• Magnetic Sound For Home Movies
• Filming 'Viva Zapata!'

APRIL 1952

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Ralph Edwards shoots his “Truth or Consequences” show with four Mitchell 35mm cameras. The program is filmed “live” in New York for later release on TV networks.

Westinghouse Electric Corp.’s “Summer Storm” is filmed by Ronald Reed Prod., Inc. This is one of over 130 films for Westinghouse Electric Corp. by this producer—all filmed with 16mm and 35mm Mitchell Cameras.

Snader Telescriptions uses three BNC Mitchells to make a Toni Arden film, one of 400 3½ minute programs shot last year by this organization with Mitchell cameras.

Procter & Gamble’s “Fireside Theatre” series is filmed by Frank Wisbar Productions, Inc. with a Mitchell BNC.

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85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell
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### ON THE COVER

John Boyle, A.S.C., (2nd from left) and his camera crew that photographed in 16mm color the complete Academy Awards Presentation Ceremonies from balcony of the RKO-Pantages theatre in Hollywood the evening of March 20. From left to right are cameraman Roger Sumner, Boyle, operator Ray Clark, Maynard Rugg, and camera assistant Robert R. Hosler. For technical data regarding the filming assignment, see the Bulletin Board column in this issue.
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Eastman Kodak Company, through the courtesy of Emery Huse, A.S.C., executive of the motion picture division of the Hollywood branch, made a gift to the Academy of Motion Picture Arts and Sciences of the necessary 16mm Kodachrome footage for filming the actual Awards presentation ceremony last month.

The motion picture was produced for the Academy by G. Carleton Hunt. The photography was directed by John Boyle, A.S.C. Both are members of the Academy's Board of Governors.

Boyle and his staff employed four 16mm sound cameras—2 Maurers and 2 Mitchells. All four cameras were fitted with special 235° shutters in order to give an exposure of \( \frac{1}{37} \) second with the available light.

Special arc spots were installed in the theatre to furnish illumination for the motion picture photography. Two lamps were placed at either side of the balcony at the rail, and two in the projection booth. Maximum illumination obtained was 750 foot candles.

Two cameras were in operation during the entire ceremony, with two standing by to take over when film in the other two ran low. One camera thus would shoot closeups with a telephoto lens, while the other recorded long shots.

Boyle employed a telephone intercom system between his camera operators in order to relay instructions as filming progressed and to keep track of the footage.

Approximately 6000 feet of film were exposed. This will be edited down to about an hour and a half screen time. The picture, made for the Academy's archives, will be given its premiere screening before Academy members sometime early this month.

Guy Roe, A.S.C., departed for India March 18, where he will direct the photography on a production to be made there by Cascade Pictures. Home base of company is Hal Roach Studios, Culver City.

Fred W. Jackman, executive vice-president of the American Society of Cinematographers, returned to his desk in mid-March following a brief hospitalization.

Devereux Jennings, A.S.C., 67, veteran cinematographer, died March 12 after a lingering illness at the home of his brother Gordon Jennings, A.S.C., head of Paramount Studio's special photographic effects department. Veteran of the one-reel era of silent movies, Jennings photographed many early features for Paramount, D. W. Griffith, Mickey Neilau and others. A charter member of the American Society of Cinematographers, for the past 17 years Jennings had been associated with the Paramount special effects department.

In addition to his brother, two sisters survive.

(Continued on Page 151)
Another RCA First!

Amazing new RCA recorder-projector

Think of it!

An easy, low-cost way to put your own sound track on any single-perforation 16mm movie film . . . thanks to RCA's revolutionary new magnetic recorder-projector. Now you can:

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- Play back instantly
- Erase mistakes and re-record

. . .and it's all so simple that anyone—yes, anyone—can do a top-quality job right from the start!

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It's magnetic sound—recorded on a narrow stripe of magnetic iron oxide, applied along one edge of your single-perforation movie films. (If your film is double perforated, a single-perforation duplicate print must be made.) Once this magnetic sound stripe has been added, you can do all sorts of wonderful things. For instance, you can . . .

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You'll save enough on your first few film-recording jobs to pay for this new RCA machine. You can put new sound on a 10-minute movie for a cost of only a few dollars . . . actually about 11% of the cost of optical sound! Salvage all your old movies—make them useful again. Here indeed is the greatest tool ever developed for folks who use 16mm films. All built and backed by RCA—foremost pioneer in 16mm sound-film projection. Performance proved by months of tests and on-the-job use.

Here's how easy it is

No special facilities needed. Anyone can do it 'most anywhere. Here's how:

First—you have a stripe of magnetic iron oxide added to your existing 16mm single-perforation films. (This service is now available, costs only a few cents a foot.)

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Dear Mr. Maurer,

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You might be interested to know that until my purchase of a Maurer Camera I never had the beautiful results I am now obtaining through the use of this fine camera. I have shot some ten thousand feet of Kodachrome film and every foot is good. It has performed under extreme conditions in sandstorms, extreme heat and some cold weather and has functioned perfectly in every set-up.

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Peter Mole, A.S.C., president of the Society of Motion Picture and Television Engineers, has announced that the SMPTE's 71st Semiannual Convention will take place in Chicago from Monday, April 21 to Friday the 25th, at the Drake Hotel.

Scheduled are eleven sessions during which time sixty papers are scheduled to be delivered. The talks will cover a wide range of important subjects including color television, theatre TV, industrial TV, three-dimension effects, high-speed photography, new type screens, the future of films in education, film exhibition, sound recording and many other vital subjects.

American Society of Cinematographers last month admitted two new members to its organization. They are John Painter, of New York City, and Fred Gately, Hollywood cameraman.

Karl Struss, A.S.C., last month was cited with a special award by the Academy of Stereoscopic Arts and Sciences at the organization's annual awards program in Hollywood. Dorothy Hart made the presentation for the Beverly Hills Stereo club, which sponsored the program.

Tom Tutwiler, A.S.C., returned to Hollywood last month from Bangkok, Siam, where he directed the photography on a feature production for the Sathaporn Cinema Co., Ltd., native film producing company.

Frank Planer, A.S.C., was erroneously credited in our March issue with winning a “Photoplay Award” for the photography of “Decision Before Dawn,” a 20th-Fox production. It was a “Look Award” that was presented him for his fine photographic job—giving him two cinematographic awards for the year. The other was the Golden Globe Award for photography of “Death Of A Salesman,” produced by Stanley Kramer for Columbia.

Interest created by the article “Reflected Light For Color Photography” in the November, 1951, issue of American Cinematographer is evidenced by unusual amount of correspondence received to date by John Arnold, A.S.C., MGM's executive director of photography, whose unique new set lighting lamps were described in the article. Inquiries about adapting lamps to TV studio lighting, portraiture, and small industrial motion picture studios have come from all over the world.

AURICON shoots ALLIGATORS in Warner Bros. “Land of the Trembling Earth”

Processed in 35mm Technicolor, and now being released by Warner Bros., is the dramatic picture-story, “Land of the Trembling Earth,” the only authentic 16mm color picture ever filmed in the dark interior of Southeast Georgia’s Okefenokee Swamp! This is a saga of raw courage... picturing the daring of two cameramen, Ted and Vincent Saizis (Chicago Local #666 I.A.T.S.E.), and The Naturalist and Wild Life Director of Okefenokee Swamp Park, David DaLie, as they penetrated this unexplored section of the United States, using an Auricon-Pro 16mm Camera. They recorded such amazing sights as huge attacking alligators...a maddened mother bear...swamp snakes in natural habitat...as well as the experiences of men continually facing death...set against the awesome brutality of one of the world's wildest areas! Watch for this unusual short subject at your neighborhood theatre. It will soon be shown to millions of movie-goers, thanks to the courage of three adventurers and the dependable operation of the Auricon-Pro Camera.

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AURICON-PRO 16mm CAMERA used by Ted and Vincent Saizis in Okefenokee 'gator country
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FEW YEARS AGO, when cameramen were kicking around the idea of shooting feature films in 16mm and then blowing them up to 35mm for theatrical release, they little realized the idea was only a short few years from reality. Today, while few 35mm features have been shot in 16mm, the production of 35mm short subjects from 16mm color film has proved highly successful.

With the introduction of 16mm Commercial Kodachrome, film laboratories have been able more successfully to make acceptable 35mm blowups in color. Today, quite a number of the short subjects seen on theatre screens originate in 16mm photography. Beginning with the spectacular footage shot with 16mm cameras during the last war, which was brought to theatre screens in 35mm Technicolor, some producers have steadily improved their methods until today studios like Warner Brothers, Walt Disney and Republic now have regular programs of short subject releases which are photographed in 16mm Kodachrome. And to underscore both the merits and the quality of the narrower film, some of these shorts have won Academy Awards—Warner Brothers’ “Facing Your Danger” and Walt Disney’s “Seal Island” and “Beaver Valley,” to name just a few. Disney’s “Nature’s Half Acre,” also shot in 16mm, won an Academy Award this year.

One of the newer and no less noteworthy series of shorts, which has its beginning in 16mm Kodachrome, is “This World Of Ours,” released in 35mm Trucolor (a full 3-color film) by Republic Studios. Produced for Republic by Dudley Pictures Corporation, the footage for most of these documentary-travelogue subjects is photographed in 16mm Commercial Kodachrome by Edwin E. Olsen, Dudley’s ace cinematographer. The first six in the series released or about to be released are: “Italy,” “Switzerland,” “Egypt,” “Greece,” “Puerto Rico” and “Chile.”

“In shooting material for travelogue-type short subjects,” said Olsen, “the 16mm camera and film has been found superior in many ways to 35mm. Camera and associated equipment is lighter, more easily transported in rugged regions; film supply requires less space, is easier to store and handle; and the use of smaller camera doesn’t attract the attention that larger cameras do. Thus it is possible to film more interesting material and to get shots more unobtrusively in foreign lands where profes-

EXCEPTIONAL 16mm color photography is exemplified in the short subject, “Switzerland,” produced for Republic Pictures by Dudley Pictures Corp. and recently released in 35mm Trucolor. Photography was by 16mm cinematographer Edwin Olsen (in white cap, above).

Filming Travelogues In 16mm Color

Ed Olsen’s daring 16mm color film “Facing Your Danger” won an Academy Award for Warner Brothers and helped pave the way for wider use of 16mm film in the production of travel-documentaries for theatrical release.

“...and to underscore both the merits and the quality of the narrower film, some of these shorts have won Academy Awards—Warner Brothers’ “Facing Your Danger” and Walt Disney’s “Seal Island” and “Beaver Valley,” to name just a few. Disney’s “Nature’s Half Acre,” also shot in 16mm, won an Academy Award this year.”

(Continued on Page 172)
The Filming Of 'Viva Zapata!'  

Joseph MacDonald's realistic cinematography combined with the inspired direction of Elia Kazan has produced one of the most notable productions of 1952—a sure Oscar nominee next year.

By HERB A. LIGHTMAN

In preparing to photograph John Steinbeck's production of "Viva Zapata!" for 20th Century-Fox, Director of Photography Joe MacDonald, A.S.C., was faced with an assignment that presented many challenging technical problems—but which at the same time offered unusual opportunities for forcefully beautiful camera treatment. Final release prints of this outstanding historical film prove that not only did MacDonald brilliantlv overcome the production's inherent photographic problems, but that he also took full advantage of dramatic locales, characters and backgrounds to create photographically a feature of rare pictorial beauty.

"Viva Zapata!" is a story of Mexico, and of one Mexican in particular—Emiliano Zapata, a brooding, illiterate young Indian who, as ally of Pancho Villa, became commanding general of the Liberator Army of the South in the struggle to end the tyrannical dictators of dictator-president Porfirio Diaz. It is a narrative of hate and despair, violence and love—a fiery page out of Mexico's flaming history, told with the kinetic sweep and excitement that only the motion picture camera can capture.

To produce this film with all the verve and scope demanded by the script's vast tapestry of action, it was necessary to find exactly the right locales and backgrounds. It had been hoped that the picture might be filmed in Mexico, actually in the areas where the historical incidents took place. When official regulations of the Mexican government precluded this possibility, scenarist John Steinbeck, director Elia "Gadge" Kakan, and cinematographer Joe MacDonald set off to scout the American side of the Rio Grande for facsimiles of Ayala, scene of the first Zapata uprising in February, 1911; of Chinameca, where Zapata was assassinated; of Cuernavaca, Tlalpujahua and Quila Mula. They found these in a canyon near the junction of the Pecos and Rio Grande Rivers, at Roma, San Ygnacio, and Dolores, Texas, where art directors remodeled large sections of the towns, and at Durango. Other settings at the 20th-Fox Studio and ranch, copied from old photographs comprise a composite Morelos with all the picturesque old Mexico.

Scenery and props that Hollywood couldn't duplicate for $10,000,000 were filmed in former Mexican villages along the Rio Grande. The hundred-year-old town of Roma, Texas, its adobe store buildings, church and wrought-iron embossed homes mellowed by time, was made available to the company. This quaint village with its huge cobblestone plaza declared a three-week holiday while 500 of its picturesque citizens donned makeup and peon costumes to work before the cameras as extras.

From the rocky delta of the Pecos and Rio Grande east of Del Rio, Texas, the company staged a 350-mile safari to McAllen, Laredo, Dolores, Roma and San Ygnacio, Texas, duplicating scenery of the state of Morelos, Mexico. Here MacDonald encountered sunlight in excess of 1600 foot candles; so bright, in fact, that it could not be measured with a conventional exposure meter. The Southern Texas sunlight proved to be an average of 400 foot candles brighter than California's.

Temperatures in the shade ranged as high as 130°, not counting the added heat given off by the lights. This inferno took its toll among the grips, electricians and laborers, while the actors themselves often required restoratives to sustain their energies in the enervating heat. While this situation may have served a useful purpose in producing honest sweat on the actors, thus enhancing their resemblance to Mexicans in native surroundings, it gave the make-up men trouble because it melted mascara and the glue on false wigs and moustaches.

When asked about specific problems in shooting the picture, Joe MacDonald laughingly replied: "I guess you could say that one of my main problems was the nude swimmers across the river on the Mexican side who insisted on swimming into the scene every time the camera started on our side. We finally had to ask the authorities to keep them corralled. The sound man had his troubles, too, trying to get rid of the music blaring forth from juke-boxes across the river."

From the standpoint of materials used, "Zapata" posed a real problem in logistics. By truck, trailer and freight car, 100 tons of heavy equipment were shipped from Hollywood to Texas, to Durango, Colo., to the studio's 35-mile distant ranch and back to Hollywood again. Sets ranged from squalid mud huts to the ornate national palace in Mexico City recreated by art directors on the studio's back lot. A wealthy landowner's stable shown in the film cost $50,000 alone and featured marble columns, gold chains across the stalls, fresh running water, and sculptured bas relief plaques behind each blue-ribbon horse. The object of this equine Waldorf Astoria was to point up the contrast in living conditions between the rich and poor during Mexico's troubled days between 1911 and 1920.

The total result of the huge expenditure of time, money and effort required...
REALISTIC Mexican locales, such as this, were reproduced by Fox on this side of the border, in Texas. Here Marlon Brando (right), as the illiterate Zapata, listens to reading of a newspaper account of the revolutionary aims of Madero, who seeks him as aide.

to film the location scenes is a style of dramatic and photographic realism that could never have been achieved had the entire picture been shot in the studio. The film has an authentic "scene-of-the-crime" atmosphere which is reminiscent of "Forgotten Village," the powerful feature documentary filmed by John Steinbeck and Herbert Kline in a primitive Mexican village several years ago.

"Zapata" carries its realism to the technical phases of filming. There are no process background shots in the picture. All the backgrounds are the real thing—which means that important problems of light balance and depth-of-field presented themselves. All interiors (with the exception of the presidential palace) were shot in actual buildings and homes on location. Quite often action was played from a foreground interior to exterior areas clearly seen through an open window or door in the scene. This means that tremendous amounts of light had to be poured on the interior—not only to build up its brightness in ratio to that of the exterior, but also to permit the lens to be stopped down far enough to hold sharp focus both in the foreground interior plane and the widely separated background exterior plane.

An outstanding example of this technique is the proposal sequence which takes place inside the parlor of a mansion. Broad barred windows dominate the background, opening directly into the street. In the foreground, the protagonist presses suit for the hand of the woman he loves. Through the window (and all the way across the street) the action of the sub-plot can be seen developing. Both planes are in sharp focus.

MacDonald's striking compositions achieved through the use of these depth-of-field shots throughout the film were made possible by latensification of the negative, which added 11/2 stops to the speed of the film and permitted him to stop down the lens (sometimes to f.22) to insure sharpness in the widely separated planes of action.

Photography of exteriors combines lighting, filters, and dynamic camera angles to bring into sharp relief the starkly rugged landscape. The effect is further enhanced by fully exploiting natural light and weather conditions to add to the dramatic mood of the action. Overcast skies boiling with ominous clouds serve as a backdrop for violent situations. There was never any production hold-up for weather. To the contrary, even the most inclement atmospheric conditions were put to work to build up mood.

Often, a particularly dramatic sky would develop quite suddenly—a fleeting condition that could be counted on to last for only a few minutes. At these times the company had to work at top speed to get all the long shots "in the can" before the weather conditions changed. On one occasion the company rose at 3:00 a.m. in order to film a sequence of action dramatically silhouetted against the eerie dawn sky.

The interior sequences of "Viva Zap-

(Continued on Page 183)
CINEMATOGRAPHY AWARD winners Alfred L. Gilks, A.S.C., and William Mellor, A.S.C., with MGM screen starlet Vera Ellen who presented the awards at the Academy's annual presentation ceremonies in Hollywood last month.

1951 'Oscar' Winners

Academy cites "An American In Paris" and "A Place In The Sun" for best cinematography of the year.

Oscar—Hollywood's god of achievement—paid his 24th annual visit to the film capital the evening of March 20th and honored some forty-three artists and technicians for cinematic accomplishments during 1951. Occasion was the twenty-fourth annual awards presentation ceremonies of the Academy of Motion Picture Arts and Sciences at the RKO-Pantages theatre in Hollywood.

Voted Best Picture of 1951 by the Academy was Metro-Goldwyn-Mayer's Technicolor musical, "An American In Paris," produced by Arthur Freed. In addition, the picture garnered eight additional awards, including that for best achievement in cinematography for a color production. For directing the Technicolor photography Alfred L. Gilks, A.S.C., was presented with an Oscar commemorating the achievement. John Alton, A.S.C., was cited for the ballet photography.

Cinematography achievement awards were made in two classifications—color productions and black-and-white productions. To William Mellor, A.S.C., went the Oscar award for photography of Paramount Pictures' "A Place In The Sun," cited for the best photography of a black-and-white production.

It is the first time that any of these men have made the winner's circle in the annual Oscar derby.

Still another A.S.C. member was presented with two Academy awards. Head of Paramount Pictures' special photographic effects department, H. Gordon Jennings, and his staff were cited for best achievement in special effects for "When Worlds Collide," produced in Technicolor by George Pal; and together with S. L. Standcliffe, Jennings also received a Class II Technical Award for the development of a servo-operated recording and repeating device for special effects photography.

Also in the realm of cinematography was the Class III Technicolor Award given jointly to Richard M. Haff, Frank P. Herrnfeld, Garland C. Misener, A.S.C., and Ansco for developing the Ansco Scene Tester.

The Academy's choice of "An American in Paris" for both the Best Picture and Best Color Photography awards upset the predictions of most pre-awards pollsters. The colorful, tuneful M-G-M production nosed out two of the hottest contenders to point up conclusively the fact that independent voting, not politics, selects the winners in the annual Academy event. M-G-M had three contenders in the race for color photog-
American Cinematographer

GORDON JENNINGS, A.S.C., director of Paramount's special photographic effects department, was honored with an award for best special effects and for technical achievement.

Alfred L. Gilks, won still other honors for his photography of "An American In Paris." The Film Daily, New York trade paper, put Gilks at the head of its list of the Year's Outstanding Directors of Photography classification in its annual "Filmdom's Famous Fives of 1951" poll conducted among the nation's representative critics and reviewers of leading newspapers, magazines, wire services, syndicates and radio film commentators.


Said The Film Daily: "Premier photographic honors for 1951 were voted by the critics and commentators to Alfred Gilks, for his magnificent camerawork on "An American In Paris." Gilks finished with a comfortable 15-vote lead over Robert Surtees and William Skall, jointly responsible for the pictorial quality of "Quo Vadis" as its directors of photography. Number 3 spot went to William Mellor for photography of "A Place In The Sun."

The five cinematographers voted tops in their respective categories were:

1951
B & W: William Mellor, A.S.C. - "A Place In The Sun"
(Ballet Photography)

1950
B & W: Robert Krasker - "The Third Man"

1949
B & W: Paul Vogel, A.S.C. - "Battleground"
Color: Winton Hoch, A.S.C. - "She Wore Yellow Ribbon"

1948
B & W: William Daniels, A.S.C. - "The Naked City"
Color: Joseph Valentine, A.S.C. - "Joan Of Arc"

1947
B & W: Guy Green - "Great Expectations"
Color: Jack Cardiff, A.S.C. - "Black Narcissus"

1946
B & W: Arthur Miller, A.S.C. - "Anna And King Of SIam"
Color: Charles Rosher, A.S.C. - "The Yearling"
Leonard Smith, A.S.C. - "American In Paris"
Arthur Arling, A.S.C. - "Quo Vadis"

1945
B & W: Harry Stradling, A.S.C. - "Picture Of Dorian Gray"
Color: Leon Shamroy, A.S.C. - "Leave Her To Heaven"

1944
B & W: Joseph IaShellle, A.S.C. - "Laura"
Color: Leon Shamroy, A.S.C. - "Wilson"

1943
B & W: Arthur Miller, A.S.C. - "Song Of Bernadette"
Color: Hal Mohr, A.S.C. - "Phantom Of The Opera"
W. Howard Greene - "Wilson"

1942
B & W: Joseph Ruttenberg, A.S.C. - "Mrs. Miniver"
Color: Leon Shamroy, A.S.C. - "The Black Swan"

1941
B & W: Arthur Miller, A.S.C. - "How Green My Valley"
Color: Ernest Haller, A.S.C. - "Blood And Sand"
Ray Rennahan, A.S.C. - "One Man's Family"

1940
B & W: George Barnes, A.S.C. - "Rebecca"
Color: George Perrinall - "Thief Of Bagdad"

1939
B & W: Gregg Toland, A.S.C. - "Wuthering Heights"
Color: Ernest Haller, A.S.C. - "Gone With The Wind"
Ray Rennahan, A.S.C. - "The Yearling"

1938
Joseph Ruttenberg, A.S.C. - "The Great Waltz"

1937
Karl Freund, A.S.C. - "The Good Earth"

1936
Tony Gaudio, A.S.C. - "Anthony Adverse"

1935
Hal Mohr, A.S.C. - "Midsummer Night's Dream"

1934
Victor Milner, A.S.C. - "Cleopatra"

1933
Charles B. Lang Jr., A.S.C. - "A Farewell To Arms"
Lee Garmes, A.S.C. - "Shanghai Express"

1932
Floyd Crosby, A.S.C. - "Tabu"

1931
William Van Der Veer, Joseph T. Rucker - "With Byrd At So. Pole"

1929
Clyde DeVinna, A.S.C. - "White Shadows In So. Seas"

1928
Charles Rosher, A.S.C. - "Sunrise"
Karl Struss, A.S.C. - "American In Paris"

1927
John Alton, A.S.C. - "Preminger"
Wray & Bromley - "Transatlantic"

(Continued on Page 175)
A New Method Of Handling Sound For Foreign Releases

Magnetic sound in one language can be erased and replaced by another language on the same print, thus extending the utilization of release prints.

By LOREN L. RYDER, A.S.C.
Director of Recording and Engineering, Paramount Studio

A major factor in the production of release prints for foreign release has been the additional cost involved in making new sound tracks for such films to meet the language requirements of the various countries. It is proposed here that in view of the techniques of magnetic recording and editing now in use in Hollywood which are saving time, simplifying sound handling, and improving sound quality—all with considerable savings in costs—that this system can also simplify the handling of foreign versions, effect a better use of release prints, and gain new markets with comparable savings in costs and time.

Simplification of handling foreign versions would be the direct result of employing magnetic recording and reproduction. Magnetic sound in one language can be erased and replaced by another language on the same print, thus extending the utilization of release prints. The system herein proposed eliminates the need for elaborate compositing and dubbing, thus reducing the cost of foreign versions and, in turn, making it possible to economically reach markets which are now untouched. All this applies to 16mm as well as 35mm foreign release prints. It also is applicable to educational and industrial films, of which ever receive substantial foreign exhibition because of the cost factor involved in making the special sound tracks.

We shall describe here a proposed system of applying some of the established magnetic recording procedures to the foreign handling of American-made motion pictures. It should be noted that as each phase of the system is placed in service, savings can be effected and existing practices can be retired. Further, the proposal has great latitude to meet special requirements.

In the initial step of the proposed procedure the Hollywood studio would make a dual-track recording with English dialogue on one track and all music and sound effects on a separate track. This is done during the final composite rerecording on each picture. Several studios now are using three-track magnetic recorders in the dubbing channels and are already making separate sound track records of dialogue, effects and music. Some studios transfer effects from the original dialogue track to the effects track if the effect is not under dialogue. These three-track recorders are used in existing procedures to gain effects plus music less English dialogue for foreign versions, and to gain English dialogue plus effects less music for television use where music clearance is unobtainable. The domestic photographic sound negative is obtained by electrically combining the three tracks and rerecording to a photographic negative.

The laboratory, in collaboration with the sound department subsequently would prepare a fine-grain composite master print for foreign use. Here the sound track actually is a dual track—two separate photographic sound tracks 50 mils in width. The music and effects are recorded on the one track located just inside the sprocket holes, and the dialogue is recorded separately on the second track which is next to the picture. (See Fig. 1.) The area separating the two tracks is .005 inches in width. Such dual-track prints will play on any existing theatre equipment interchangeably with present single-track sound prints.

In foreign language countries, such as France, Italy, Germany and Spain, where the market justifies accurate lip-synchronization and a substantial number of release prints of a given feature, it is suggested that dialogue synchronization for such films be done as at present (possibly using magnetic recording) and that foreign dialogue be printed photographically to the release prints in the area normally occupied by the English dialogue (50 mil) track. Such dual-track prints will also play on any existing theatre equipment interchangeably with the present type prints with standard sound tracks.

The synchronized magnetic foreign dialogue track can be rerecorded directly to the foreign language composite negative. It will only be necessary to establish a proper playing level of the dialogue to go with the music and effects.

In making a foreign language release print, the important effects which were recorded back of dialogue during production shooting and which are missing from the music and effects track, should be synchronized. These effects can be combined with the U.S.-prepared music and effects to obtain a new and

(Continued on Page 169)
The New PanCinor
20mm to 60mm variable focal length lens for 16mm cameras

Specifications

Focal length variable from 20 to 60mm, engraved in steps of 5mm
Focusing range: 5 feet to infinity
Maximum aperture: f/2.8
Diaphragm stops down to f/22
Lens coupled with a variable field finder having a parallax correction from 5 feet to infinity
Length in wide angle position: 3½"
Length in telephoto position: 4½"
Equipped with detachable sunshade 1¼" long
Weight including viewfinder: 2 lbs.
Standard C mount
All lens elements are coated

AT LAST the amateur cameraman can follow action... hold action... create action — and a virtually unlimited variety of special effects — from one camera position! Yes, Pan-Cinor actually provides the equivalent of a 9-lens turret... without lens changes!

Scaled in size and price to the amateur budget... incredibly versatile yet easy to use as an ordinary lens, Pan-Cinor's big f/2.8 aperture is ideal for color work or black and white coverage of fast indoor sports.

Imagine... zooming from wide angle to telephoto in one "take"! Or dollying in and out of scrimmages without a lost play from one vantage point!

With its coupled view-finder and standard "C" mount, Pan-Cinor fits practically any 16mm camera.

Because the necessarily critical tolerances observed in manufacture and assembly will limit initial quantities, watch for them to appear exclusively at Bolex Franchised Dealers.

Patrick Products, Inc.
265 Madison Avenue, New York 16, N.Y.

brings the best to 16mm Movie Making!
FOR THE CINEMATOGRAPHER with imagination and a 16mm camera having single-frame release, table-top photography and stop-motion animation afford a wide range of presentations for sponsor’s products or services. Here, Author Shields prepares to film a short TV commercial for a local dairy. Skillful photography is necessary to give the utmost visual impact to TV announcements of short duration.

TV Film Commercials
For Local Sponsors

Needs of local advertisers outside the major television centers open up many opportunities for small-scale TV film production.

By DAN SHIELDS
Film Director, WFMY-TV, Greensboro, N.C.

OUTSIDE such nominal centers of television as New York, Chicago, Los Angeles, etc., there exist opportunities and indeed a real need for skilled 16mm cinematographers with imagination and ability who can turn out the spot announcements and film commercials required by the television stations located in more remote areas. As Film Director of one such station—WFMY-TV in Greensboro, North Carolina—I have been in position to evaluate this need and in turn supply the requirements of this station for such film material.

Of the sixty-three U.S. market areas now served by television, forty-nine are one-station or two-station areas. Here exists a substantial number of actual and potential TV sponsors, most of them able and willing to foot the bill for television advertising, but not big enough to organize and conduct programs on the scale of national sponsors.

Locally-produced commercials on film can provide successful television advertising for home-town merchants and other sponsors. They can be made for

EXAMPLES of spot announcements made by author for WFMY-TV local sponsors: Top—3 frames from spot for Holsum “Brown ’n Serve rolls.” By stop-motion animation, rolls gradually become “oven browned” and text, easily composed of plastic title letters, is superimposed over picture. Below—3 frames from Hospital Saving TV spot with station identification. Reproduction of Blue Cross and Blue Shield trademarks appears for 3 seconds, then first words of text, “Hospital Saving,” appear superimposed for one second, followed by remainder of text, “Chapel Hill,” flashing on screen for additional six seconds. At same time announcer states “Only Hospital Saving of Chapel Hill has Blue Cross and Blue Shield. WFMY-TV, Greensboro.”

1Television Magazine—status map. (Continued on Page 180)
The world's finest cinematographers use Baltar Lenses to achieve unsurpassed image quality in studio, news and industrial work. This complete series, in eight focal lengths, more than satisfies your strictest requirements for correction and definition, in color and black-and-white 35mm films. All lenses have air-to-glass surfaces Balcoated for full tonal rendition and brilliance. Specify Baltar Lenses for your finest work. Order from your professional camera manufacturer.
The magic of magnetic recording now makes it possible to record synchronized sound for all your 16mm home movie films, old or new, at small cost. Here's how.

By JOHN FORBES

The big news these days for amateur movie makers is the recent introduction of a practical method of recording magnetic sound on 16mm home movie films. It means an end to discs, phonograph records, magnetic wire and tape, of dual turntables and stroboscopes—all of which progressive amateurs have dealt with in recent years in an attempt to provide synchronized sound for their movies. Now two developments make synchronized sound possible for every 16mm film: (1) sound striped movie film, and (2) 16mm magnetic recorder-projectors.

Two equipment manufacturers have announced and are making delivery on 16mm magnetic recorder-projectors: RCA Victor, and Bell & Howell Company. Either projector may also be used to screen silent films. RCA's projector was described in the November, 1951, issue of American Cinematographer; Bell & Howell's in last month's issue.

Now, the thought in every amateur's mind is: How do I record magnetic sound on my films?

The method is simple, but it cannot all be explained in a single paragraph. So let's begin at the beginning. The thing to remember is that magnetic sound can be applied to both your old 16mm films and to those which you will make from now on. The method of recording sound for each is identical, but the intermediate steps are different. In recording magnetic sound for an old film, it is necessary to make a duplicate print on single-perforated film stock in order to allow one unperforated edge of the film for the sound track. Here will be applied the coating of Soundstripe or Magna-Stripe—a narrow stripe of iron oxide emulsion on which recording is done magnetically.

(Continued on Page 170)
TWENTY-FOURTH ANNUAL AWARDS

Acknowledging

FOR OUTSTANDING PHOTOGRAPHIC ACHIEVEMENT

BLACK and WHITE

WILLIAM C. MELLOR, A.S.C.
Director of Photography
“A PLACE IN THE SUN”
PARAMOUNT PICTURES

COLOR

ALFRED GILKS, A.S.C.
Director of Photography
“AN AMERICAN IN PARIS”
METRO-GOLDWYN-MAYER

Ballet Number

JOHN ALTON, A.S.C.
Director of Photography

W. J. GERMAN, INC.
Distributors
EASTMAN FILMS
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ACADEMY OF MOTION PICTURE ARTS AND SCIENCES
Metro-Goldwyn-Mayer

Gratefully acknowledges
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by the Academy
to

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Director of Photography

and

JOHN ALTON, A.S.C.
Ballet Photography

"AN AMERICAN IN PARIS"
Best Color Photography
1951
Paramount Pictures Corporation

CONGRATULATES

WILLIAM C. MELLOR, A.S.C.

for

Best Achievement in Cinematography
Black-and-White Films

"A PLACE IN THE SUN"

GORDON JENNINGS, A.S.C.

AND HIS ASSOCIATES

for

Special Photographic Effects

"When Worlds Collide"

1951
Congratulations

to the

1951 ACADEMY AWARD WINNERS

ALFRED L. GILKS, A.S.C.
Director of Photography

and

JOHN ALTON, A.S.C.
Ballet Photography

for

Color Cinematography

of

"AN AMERICAN IN PARIS"

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the
1951 ACADEMY AWARD WINNERS
for
BEST CINEMATOGRAPHY

And Salute the Following
Directors of Photography
Who Also Were
NOMINATED
for
CINEMATOGRAPHY AWARDS

LEON SHAMROY, A.S.C.
"David And Bathsheba"
(Fox)

ROBERT SURTEES, A.S.C.
"Quo Vadis"
(MGM)

WILLIAM V. SKALL, A.S.C.
"Quo Vadis"
(MGM)

CHARLES ROSHER, A.S.C.
"Showboat"
(MGM)

JOHN F. SEITZ, A.S.C.
"When Worlds Collide"
(Paramount)

W. HOWARD GREENE, A.S.C.
"When Worlds Collide"
(Paramount)

FRANK PLANER, A.S.C.
"Death Of A Salesman"
(Kramer-Columbia)

NORBERT BRODINE, A.S.C.
"The Frogmen"
(Fox)

ROBERT BURKS, A.S.C.
"Strangers On A Train"
(Warner Brothers)

HARRY STRADLING, A.S.C.
"A Streetcar Named Desire"
(Warner Brothers)
Home Movies From Television

Focus your camera on your home TV screen for a new source of movie making pleasure.

By LEO CALOI A

As you watch the abundance of entertainment that comes to you via your home television receiver, has it ever occurred that you might like to record some of it with your cine camera and thus build a library of entertainment films for the future?

The thought never occurred to me until recently when a friend came to me and asked if such photography was possible. His daughter was to appear as a dancer and singer on a TV program that evening for the first time, and he wanted a movie record of her performance. So I decided to try filming the program in sound with my Auricon 16mm sound camera.

I remembered that television engineers had said that movies shown on television are projected at the rate of 30 frames per second; that to rephotograph such pictures or in fact any TV program from the receiver tube at sound speed of 24 f.p.s. would result in some underexposure, black bars across the picture area, and some flicker—all due to the 6 frame-per-second difference between the TV projector speed and speed of the camera recording the picture from the tube.

Being more than a little curious, I set up my equipment and tried it anyway. We were more than satisfied with the results. Three clips from the film are reproduced on this page and, as may be seen, the overall pictorial result is far superior to some kinescope recordings. True, there is a slight light streak across the middle of every other frame, but this does not seriously impair the screen result.

The photos at top of page show manner of
setting up the camera and microphone before the television receiver. The camera position was purposely made higher than level of the picture tube to permit tilting the camera down slightly to avoid glare from the tube.

The microphone was suspended by boom in front of the television speaker grille. The sound amplifier unit was then set to bring in the sound at the proper level, and photography of the program begun.

I used Ansco Triple-S panchromatic film at an exposure of F/1.6—an exposure determined by meter reading. On the camera I used an Eastman Kodak 2-inch F/1.6 lens. Distance from camera to TV set, having a 10-inch tube, was five feet. Further experiments since conducted reveal that the sharpest pictures on film result when photographing a small TV tube, such as the 10-inch referred to above.

This same photographing procedure may be followed with equal success with a silent cine camera, providing photography is done at 24 f.p.s. This new movie making idea opens up a broad new field for the amateur movie maker, and will prove especially attractive to the lethargic cine fan who rarely takes his camera afield these days. For him, he can do all his movie making indoors; moreover, such movies require no titles, no splicing. This is already done for him!

One movie amateur questioned the legality of making movies of TV programs. There is no restriction of any kind as long as such movies are not used for commercial purposes.

HANDLING SOUND FOR FOREIGN RELEASES

(Continued from Page 158)

complete music-and-effects track for the foreign language release. This last step can be done during the electrical transfer from the fine grain composite master print to the foreign composite dupe negative. Synchronizing and transferring can be handled at a foreign studio to conserve dollars.

It is important that we point out here that this procedure minimizes the electrical transferring and eliminates the complex setting-up and complete re-recording methods which are still in use at most studios.

Upon completion of the release run, prints to be adopted for showing in other foreign language areas would then be given an auxiliary magnetic sound track (Fig. 2) on which the foreign language dialogue would be recorded. The track, a stripe of magnetic iron oxide 50 mils in width, would be applied over the 50 mil dialogue (optical)
track area of these prints. Thus, whenever desired, the dialogue recorded on this track in one language can be easily erased and a complete new dialogue track in another language and dialect applied. Dual sound tracks having English dialogue also can be similarly striped and used.

Obviously, magnetic adapters will be required on all projectors using such films. Such equipment has already been developed and applied successfully to theatre projectors. Installation cost is nominal, and therefore would not prove an insurmountable problem even in remote areas. Installation of such magnetic adapters would enable exhibitors in foreign lands to show a wider range of features at lower cost to them. In most cases, only the dialogue track would be rerecorded. In projecting such prints, the dialogue would be picked up magnetically with an optical pickup of the music and effects.

Synchronization can be as precise and as complete as desired; or, for limited markets, the dialogue track can be replaced with a recording of description or narration. In its simplest form, a striped print can be taken into a foreign theatre where the dialogue can be magnetically rerecorded in the native language and subsequently be reproduced on the same system. This is already being done with 16mm films.

The procedure we have unfolded here may, at first glance, seem complex and too ambitious. It is actually simpler than the methods now in use. The proposed system may be started and expanded during the retirement of the present system without loss of market.

Some of the major advantages of this system are:

a. The music and effects are accumulated along with domestic rerecording, thus eliminating duplication of effect.

b. No extra or new films will be required for export.

c. The Foreign Department will receive a complete sound track on all films.

d. The foreign prints can be used for many languages. It will, therefore, be possible to use prints for many more runnings. This is very important in view of the present trend toward more color pictures.

e. This suggestion eliminates the cumbersome and costly procedure of synchronizing effects and music and the costly procedure of compositing by re-recording for each language.

f. This procedure eliminates many of the present technical sound costs, especially for small countries. This should make it possible to open up new markets.

g. This procedure will make releases available in sound in countries where titles are now used, thus reaching a large illiterate market that is now untouched.

This procedure will require:

a. Some changes in studio equipment in order to supply the dual sound track print.

b. Conversion to magnetic at some of the foreign depots and exchanges where the films are to be handled.

c. Conversion of theatre equipment in the outlying territories and in small countries for dual playing of magnetic and optical film.

d. The conversion of theatres for combined optical and magnetic reproduction is the main drawback to this proposal. In the light of present knowledge it is quite obvious, however, that for economic reasons conversion will be made sooner or later. In this recommendation we propose making the conversion now and starting the saving soon. The conversion should be of a “quickie” type at the lowest possible cost.

MAGNETIC SOUND FOR HOME MOVIES

(Continued from Page 162)

Where sound is to be recorded magnetically on the 16mm films you make from now on, you do one of two things: use single perforated Sound-striped or Magna-Striped film in your camera (more and more pre-striped stock is being made available), or you can have your single-perforated 16mm film—either black-and-white or color-striped for magnetic sound after processing, or after editing.

To project these films and reproduce the sound, it will be necessary for you to have one of the two magnetic-recorder projectors mentioned earlier. Or, if you already own a 16mm sound projector, it is possible to have it adapted for playing both magnetic sound and optical sound interchangeably—a matter that will be discussed at greater length a little later on.

To shoot 16mm films which are to be recorded magnetically, it will be necessary for you to have the sprocket in your present camera replaced with a sprocket having only a single row of teeth. Such sprockets are standard for all sound cameras, and the alteration in average 16mm cameras is a nominal task with corresponding nominal cost.

If your camera has a double pull-down claw, that, too, will have to be altered.

Two camera manufacturers already are offering this changer service to owners of their cameras—Bell & Howell Company, and Paillard Products, Inc., manufacturers of the Bolex. The Paillard representative in New York offers to install sound sprockets on the Bolex H-16 for only $13.50. New Bolex H-16 and Bell & Howell Filmo 70-DF cameras may be had with sound sprockets, if specified at time of purchase.

And now a word about soundtracked films: We already have mentioned two trademarks—Soundstripe and Magna-Stripe. The first is a service—offered by the Bell & Howell Company. After it is processed, you send your single-perforated, 16mm film to your Bell & Howell dealer or to Bell & Howell Company laboratories in Chicago. Here a magnetic Soundstripe is permanently applied to the non-perforated edge of your film, the full width of a standard optical sound track. The company also makes available Soundstripe half standard width—called half-track Soundstripe. This is applied over one-half the optical track area of 16mm films already having optical sound tracks, making it possible to provide a dual track for such films. This service is employed mainly by industrial and educational film users where it is desired to provide two separate and different sound recordings, thus making it possible to slant the film message to audiences of two different types or levels.

Magna-Stripe is the product and service offered by Reeves Soundcraft Corp., New York City, and its affiliates. As with Bell & Howell’s Soundstripe, Magna-Stripe is also applied on single-perforated 16mm film where the optical sound track is usually located. In addition, a narrow “balancing” stripe of the same material is applied on the opposite edge of the film. This equalizes the film’s thickness and permits the film to wind evenly on reels. It also makes it easier to handle Magna-Striped film when rolled on hubs or wound loosely when editing.

Single perforated film, which may be stripped for magnetic sound, is available on special request from Eastman Kodak, Ansco, DuPont, and Kin-O-Lux. As soon as there is enough demand, camera stores will have single-perforated stock in 100-foot rolls on hand at all times. There is also some talk that film manufacturers soon will have 16mm single-perforated film available already stripped for magnetic sound. Processing the film in no way affects the magnetic track, either before or after the sound is recorded.

Recording sound on your Sound-striped film is as easy as recording on magnetic tape or wire. Whether you use an RCA or a Bell & Howell magnetic recorder-projector, the method of re-
cording is the same. The latter has one feature not found in the RCA recorder-projector: With the Bell & Howell machine, you can record and playback films at either 24 or 16 frames per second. This feature will prove especially attractive to those with a large library of personal films photographed at 16 f.p.s., and who now wish to adapt them to magnetic sound. The speed for projecting such films does not have to be increased to 24 f.p.s.

The first step in recording sound for your 16mm film, is to plan the sound in advance. Is it to be narration? Narration with musical background and/or sound effects? Post-recorded sync sound? Whatever the scheme, the best results will follow careful pre-planning. The narrative script should be written in advance, timed to match the length of the various scenes or sequences it is to describe. The background music, if any, will have to be plotted as to volume levels, fades in and fades out, etc.

With the Bell & Howell Model 202 magnetic recorder-projector it is possible to record playback music and spoken narrative simultaneously by means of two separate channels. With the RCA machine, the music must be played on a phonograph and picked up by the same microphone that receives the speaker’s voice. The Bell & Howell machine also provides for monitoring the sound with headphones. This makes it possible to satisfactorily mix the sound coming in through the two channels—a very professional feature.

The nominal pattern of a recording for a home movie film consists of an introduction of music over the main title, then fading to a low level as the narrator’s voice begins. The narration should not be continuous, but should be heard at intervals describing only the most pertinent action or subject material as it unfolds on the screen. In between, the music level can be raised to bridge the gaps between the voice recordings, and this music should be instrumental; where possible, it should complement the mood of the picture or tie in with the subject.

In the beginning, the novice will simply toy with the machine in order to get the feel of it—that is without any advance preparation or narration, etc. But as he gets “the hang” of it, and prepares to do serious recording work, he will then follow the suggestion here to plot his sound on paper first.

The next step is the actual recording. Here, if possible, the projector should be set up some distance from the microphone—preferably in an adjacent room and shooting through a glass window to the screen—in order that the sound of
the projector will not be picked up by the microphone. Another method is to make a sound-proof blimp to cover the machine during projection. This, of course, should provide for escape of heat from the lamphouse and the beam of light to the projection screen.

By carefully scripting the narration in advance and timing it to fit the respective scenes it is to describe, it is possible to record the sound without necessarily watching the picture on the screen. Most amateurs will find it difficult to read a script and speak the narration smoothly with the desired emphasis while watching the picture unfold on the screen. Where music also is to be recorded simultaneously as background, this should be handled separately by a competent assistant.

Thus prepared, you thread the film to be recorded in the recorder-projector, start the motor, and allow ample leader to pass the gate before starting to record. A good idea is to punch 3 holes in the leader—each hole about 8 frames apart—as cue marks preceding the recording starting point. Then, after starting the projector, watch the screen and count the dots as they appear on the screen. The third dot is your signal to start your sound—your opening music which precedes the narration.

Thereafter, you read your script according to plan, observing your stop watch, if recording by time alone, or by watching the screen and script for cues.

In between, during the lapses of narration, you (or your assistant) must raise or lower the volume level of the background music, as necessary.

Proper volume will be maintained by observing the “magic eye” or glow-lamp on the projector—a simple volume indicator that flashes intermittently as sound of the proper level is picked up by the microphone.

After completing the recording, you can rewind the film, switch the recorder-projector controls to “playback” and project the film—thus hearing the sound you recorded played back immediately.

An important thing to remember is that if you “fluff” lines while reading the narration, you can erase the mistake and re-record the correct words over the same track. If, after recording the entire film, you do not like any part of it, you can erase the entire track and begin all over again—within the space of a few minutes. You do not have to send the film out to be erased; you can erase it with your recorder-projector at the flick of a switch.

To provide simulated synchronized dialogue, post-recorded, will require some practice on the part of both the recorder operator and the person or persons appearing in the film. This is best accomplished by making several “dry

**FILMING TRAVELOGUES IN 16MM COLOR**

(Continued from Page 159)

sional photographers often run into restrictions.”

As a seasoned world-traveling cinematographer, shooting footage for Dudley’s short subjects, Edgar Olsen has encountered some interesting experiences. When he set out last year, along with his assistant Walker LeClair, to travel around the world in quest of footage for “This Land Of Ours,” he had no guide book nor charts of do’s and don’ts based on experiences of other cameramen who had preceded him. But he travelled light, thanks to 16mm camera equipment, and was able to make pictures where a commercial appearing outfit might have found the going rough.

With a Cine Special set up on an ordinary 16mm tripod, Olsen looked just like any other touring amateur movie maker . . . which he used to be, before
he turned his talents to shooting movies professionally.

Olsen is one of the few professional cameramen who got their start as amateur movie hobbyists. A skier of note, he retired from a successful contracting business in the mid-thirties to devote his time to skiing and shooting 16mm movies. In the summer he took his camera into other fields and subsequently made one of the most notable color films on shooting the rapids of the Colorado river. Warner Brothers bought the film and edited it down to a one-reel short subject which they titled “Facing Your Danger.” It won an Academy Award in 1946.

By now, Olsen’s camera work had attracted the attention of James Fitzpatrick, producer of shorts for MGM, who engaged him to go to Mexico and Central America to shoot short subjects material for him there. The fact he was not then a member of the cameramen’s union soon put a temporary end to his professional career. Carl Dudley, producing 16mm industrial and educational films, then engaged him; during his early activities there, Olsen made application for membership and was accepted in the local cameramen’s union. He is perhaps the only former cine amateur to be thus honored.

Today, Olsen still uses the same kind
of camera he used when first he began shooting 16mm movies—a Cine Special. When he and LeClair set out last year on their first world-girdling trip for Carl Dudley, they flew from Los Angeles to New York, thence to Israel via Ireland, Paris, Geneva, Rome and Athens. Before they touched U.S. soil again, Olsen had shot 31,500 feet of Kodachrome film in Israel, India, the East Indies and the Philippines.

He had to take along almost his entire film supply—30,000 feet of it—because of troublesome export regulations. An additional 1,500 feet of film was shipped to him by air to help him to complete shooting in the Philippines. Besides his camera, he also brought along a tripod, 6 spare film magazines for his Special, two collapsible reflectors, and a Leica camera. The latter was used for filmstrip shots—a by-product of his assignment. In addition, there were such items as baggage—14 pieces in all—which had to be carefully checked in and out each time they changed addresses, encountered new customs officials, or when using native taxis in some areas. Many customs officials in the Orient and India are quite antagonistic to foreign travelers, Olsen said. "They still go by rule books printed over 25 years ago."

In Israel, the starting point of their filming project, Olsen and LeClair found a real "hot spot." On one border of the country, they could look across the bordering terrain of a hundred yards or so and see enemy soldiers ready for any eventuality—and ready to start one at the drop of a hat. When the pair reached the desolate outpost, where Olsen's script indicated he was to do some shooting with his camera, natives were amazed they had come so far without being fired upon by their warring neighbors.

Before leaving Israel, Olsen's camera had recorded the pictorial highlights of the country's chief cities, most important industries, most of its famous geographic spots, the way the people live, native handcrafts, and the agricultural life.

On arriving in India he found the situation quite different. The people were friendly, often a little too inquisitive. The innate curiosity of the men and small boys often made camera work difficult. The women on the other hand stayed out of camera range. Indian women are not permitted to look at a camera, and although it is possible to photograph some of them, it takes a great deal of persuasion.

"We found that a competent and intelligent native guide is a big asset in shooting movies in countries of the far east," said Olsen, "especially if he has some knowledge of photography. Those who are professional guides know all the governmental red tape, native taboos, and in most cases all about the most interesting pictorial points of their respective countries. They are amazingly astute politically, too, and this is important for what it can contribute toward slanting your photographic coverage."

In the Philippines, Olsen encountered more cunning among those he dealt with than elsewhere. Most of the guides, he said, made outrageous demands. "As in most countries of the far East, every time you set up your camera some 'official' virtually pops out of the ground..."
to demand knowing what you are doing with a camera," said Olsen.

Before starting out on his 'round-the-world filming jaunt, Olsen was given comprehensive scripts covering the several short subjects he was to shoot. Based on extensive research of reliable published material, these scripts were prepared by Carl Dudley’s writing staff and they indicated the format of the subject scene by scene—admittedly pretty tough instructions for a man assigned to shoot documentary-travelogues. Needless to say, Olsen was not always able to get every shot exactly as visualized by the script writers; so he shot alternate footage—something like 8 to 1.

With his Cine Special camera set up for a scene, Olsen also focused his Leica on it and simultaneously made still shots in color for film strips of the same subject.

There is no waste in the extra footage Olsen shoots. What is not used in the “This World Of Ours” short subjects is carefully catalogued and filed away in the Dudley film vaults. Here is being assembled a vast stock shot library which someday will pay off handsomely—especially when color television becomes reality.

With Carl Dudley since 1944, Edwin Olsen is regarded one of the best all-around documentary cameramen in his respective field. Dudley has said that Olsen is the only cameraman he’d send around the world with a camera and film and give him carte blanche in shooting. Olsen’s record also stands out in another respect, too. More of his 16mm photography has appeared on theatre screens in 35mm blowups than that of any other single 16mm cinematographer.

OSCAR WINNERS

(Continued from Page 157)

The selection of Paramount’s “A Place In The Sun” for the best cinematography award in the black-and-white class also surprised many pre-award pollsters and wiseacres who believed that it was a toss-up between Warner Brothers’ “A Streetcar Named Desire,” photographed by Harry Stradling, A.S.C., or “Death Of A Salesman,” photographed for Columbia by Frank Planer, A.S.C. Already Planer had won the Hollywood Foreign Correspondent’s Golden Globe award for photography of this production. William Mellor’s camerawork on “A Place In The Sun” was tremendously effective in enabling director George Stevens to sharpen and refine a great literary work into a great motion picture, which was itself an Academy Award nominee for best pic-
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The WINNERS in American Cinematographer’s 1952 AMATEUR MOTION PICTURE COMPETITION Will Be Announced in the MAY ISSUE of American Cinematographer

Effective this year, the Academy has discontinued annual awards for special effects. Awards will be given only when exceptional achievement in this branch of motion production is voted by Academy members. This year, the Paramount picture, “When Worlds Collide,” was cited for the award. At the presentation ceremonies Frank Freeman, Paramount studio head, accepted the award in behalf of H. Gordon Jennings, A.S.C., and his associates Paul Lerpae, A.S.C., the late Devereaux Jennings, A.S.C., Irmin Roberts, A.S.C., Harry Barndollar, Jan Domela, Chesley Bonestell and Ivan Blake.

Other awards this year were as follows:

Supporting Actor: Karl Malden, “A Streetcar Named Desire.”
Supporting Actress: Kim Hunter, “A Streetcar Named Desire.”
Best Direction: George Stevens, “A Place In The Sun,” Paramount.
Best Screenplay: Michael Wilson, Harry Brown, “A Place In The Sun.”
Best Motion Picture Story: Paul Dehn, James Bernard, Boulting Brothers, (British).

Best Art Direction, black-and-white:
Richard Day, "A Streetcar Named Desire."


Best Set Decoration, black-and-white: George J. Hopkins, "A Streetcar Named Desire."


Best Film Editing: William Hornbeck, "A Place In The Sun."

Best Costume Design, black-and-white: Edith Head, "A Place In The Sun."


Best Sound: "Douglas Shearer, "The Great Caruso," MGM.

Runners-up in the race for cinematography awards were the following ten directors of photography:
Charles Rosher, A.S.C., "Showboat," MGM.

In all, ten 1951 productions were nominated for cinematography awards by the Academy. Five were color productions and five, black-and-white. The above named runners-up as well as those in the other awards classifications will each receive a Nomination Certificate from the Academy—no little honor in itself, for often only a very few votes separate the also-rans from the Award-winners.

THE GEORGE EASTMAN House of Photography in Rochester has received a gift of $100,000 to be used for acquiring and preserving historical motion pictures for further study and for showing at the Dryden Theatre of Eastman House. Ninety percent of the films now existing from the old days of the 57-year history of motion picture industry, are on early nitrate stock and face possible destruction from advanced deterioration within the next ten years. With the funds now available, copies can be made of these perishable and inflammable old films on modern acetate safety stock which, with proper care, should last indefinitely.

Admittedly, musically, with their ever-present dance numbers, present a problem for the cameraman—the problem of giving the photography of dance numbers a fresh new approach. This is a matter of course, which begins to receive attention in the very beginning of the picture’s planning; nevertheless, it is the director of photography’s responsibility to work out the new and intricate camera instructions dreamed up by the writers and producers.

In this picture, both Gene Kelly and Donald O’Connor virtually reach their zenith in dancing versatility, and Hal Rosson has captured their intricate routines beautifully.

Early in the picture there is a zaney routine by O’Connor in which he just about knocks himself out and the cameramen, too.

To capture this routine in all its intricate ramifications, it was necessary to keep the camera moving all the time, and for this exceptional maneuver considerable credit also is due Rosson’s camera crew.

The story, which stars Gene Kelly, Donald O’Connor, Debor Reynolds and Jean Hagen, is a gay, tuneful spoofing of the picture business in the late twenties. The production numbers are spectacular, the sets gay, and there are two dance numbers that definitely are enhanced by Rosson’s skillful camera work. The most memorable, of course, is the big number with Gene Kelly dancing in the rain.


This picture falls far short of “Born Yesterday.” Judy Holiday’s initial smash hit, also produced by Columbia, and also photographed by Joseph Walker.

However, Walker has given this new Holiday starrer all the skillful lighting and camera treatment that highlighted the earlier picture. “The Marrying Kind” has Miss Holiday teamed with newcomer Aldo Ray in a skit consisting of a series of domestic squabbles. Overly-wordy, the picture is shy on that kind of action that characterized the first Holiday vehicle.

Much of the production was shot on location in New York and these exteriors display excellent lighting and camera treatment.

Walker’s studio interiors are marked by his usual smooth lighting that exactly fits the mood called for in each scene. His moving camera shots in the post-office, especially when following the players moving in the postoffice conveyor system, are skilfully done. Miss Holiday’s closeups are all that could be desired.


The sex criminal and what to do about him form the theme of this well-photographed production starring Adolphe Menjou and Arthur Franz.

The exteriors for the production were filmed in San Francisco, a city that has been photographed many times for motion pictures, but never as for this story. Here the locale was back alleys, dingy streets, and parts of the warehouse section of the city. It called for frank and incisive photography having a grim mood complementary to the story.

The full scope of the art of cinematography was employed by director of photography Guffey to give the picture the maximum dramatic emphasis in these natural locales. The way the photography was planned to dramatize characters or situations, such as the high shots looking down on the fleeing lad; the protagonist’s eye-view of the situation; the use of a high-mounted camera to follow Franz in his flight through the warehouse district—all of this was skillfully executed; there was none of the cut and dried static formula of camera treatment we see in so many “action” pictures today.

The night sequences are exceptionally good, and the exteriors shot in the soft overcast lighting so characteristic of San Francisco give scenes a realistic touch most appropriate for the story mood. The interiors, too, are lighted and photographed in a manner that shows astudious effort to avoid the common-place camera treatment we see in so many “action” pictures today.


James Mason is a trusted embassy employee who sells British war secrets to the Nazis in this tautly paced story with a World War II European locale. A great deal of the action takes place in Turkey and for many of the exteriors and for the background plates Norbert
Brodine took his camera crew overseas to shoot scenes in the actual locales, thus giving the story both plausibility and added interest.

Brodine greatly exceeds his “Frogmen” cinematography in this production. Of course, the opportunities were greater. He had the highly interesting Turkish scenes to train his camera upon and this he did with a reporter’s instinct for realism and pictorial finesse.

Back at the studio he had to match these sequences for lighting, camera angles, etc., and he followed through with his customary skill.

Here is a swell piece of entertainment, made all the more provocative by the combination of Mankiewicz, the director, and Brodine, the cinematographer supreme.


“Steel Town” is the first film in Hollywood history to dramatize the process of steel making.

Director George Sherman took his technical crews and stars Ann Sheridan, Howard Duff and John Lund to the huge Kaiser Steel Mill in Fontana, California, where action scenes were shot against backgrounds of a real-life blast furnace, coke oven, open hearth and rolling mill.

When arrangements were made to use the Kaiser location, the steel company officials made it clear that the war effort demanded maximum production on a 24-hour-a-day basis. Consequently, production of steel had to be carried on simultaneously with the shooting of scenes there. There could be no special arranging of equipment. Scenes would have to be shot as the plant worked.

Boyle and his camera crew faced the challenge optimistically and came up with a bang-up pictorial job. They worked throughout the two-week location with giant hot metal cranes moving overhead carrying 90,000-pound ladles each filled with 200 tons of hot pig iron.

The two major problems faced by Boyle were that of the extreme heat, and the unusual colors coming from the furnaces and the molten metal. But he had faced just such a situation many years before when he filmed the first Technicolor commercial film on the steel industry for United States Steel Corp. in 1938. In filming the U-I picture, the heat was so intense that fresh cold towels were thrown over the cameras every ten minutes to protect film and camera parts.

Photographically, the mill scenes are expertly done, and as one reviewer has said, “the photography looks like cameraman Boyle had enjoyed every minute of it.”

END
a fraction of the cost of spots produced by large studios for national sponsors. Although the overall quality may not match that of the studio product given the benefit of greater experience, equipment and resources of the studio, films can be turned out that will have greater appeal and selling punch than either slides or live-commercial presentations.

Many such advertising films are produced by staff members of independent TV stations as part of the station’s service to advertisers. The films to be discussed here are silent—the commentary being provided by a staff announcer reading prepared copy as the film is telecast. When desired, suitable recorded music may also be played as background.

There exists in this method, of course, the possibility that the announcer may fluff the commercial. This is not always a serious disadvantage—certainly not as serious as a fluff by an actor making a demonstration of a product—a situation which is automatically eliminated when the presentation is put on film.

There is one great advantage, too, in using live narration over sound on film, in that the copy can be changed weekly or even daily to fit the needs of the sponsor.

Today, television commercials or spot announcements have been established in three standard lengths: the one-minute spot, the twenty-second spot, and the ten-second spot or station-identification spot. Sponsors usually make their choice on the basis of ability to purchase the air time involved, and the availability of the various commercial time slots in the presentation is put on film.

The time periods for spot announcements, like those for radio, are exact in terms of fractions of a minute and must be dealt with precisely in the comparison of length of film. A 20-second spot on 16mm film, for example, must be exactly twelve feet in length—no more, no less.

We have established that the TV commercials being dealt with here are silent, with live audio, and are made in three time-period lengths. An additional specification is that they should also be made on 16mm film, photographed at standard sound speed of 24 fps. Practically every TV station now has 16mm film projectors; a few in metropolitan areas also have 35mm projectors.

In considering the content of spot announcement films, live action and plain titles are within the scope of any 16mm cameraman and his equipment. Often many commercials can be given a high degree of professional polish by the addition of simple animation of either the product or the superimposed text. Lap-dissolves also have a place in compressing action into the limited time interval. Such effects can be accomplished where the camera used is equipped with single frame release and there is means for winding back the film in the camera. Where cameras such as the Cine Special are used, dissolves may be made easily and automatically by means of the manual control provided by the camera’s adjustable shutter.

Who are potential clients for film commercials? Mostly they are those already advertising on television and using live or slide presentations. Spending a few evenings before your TV set will yield a list of such potential sponsors who might be persuaded to put their advertising message on film for more effective results. Then there are those businessmen not yet committed to television. Many would buy TV time if they were assured an effective method of presenting their product or message via video. This, of course, is where film is the most effective.

Prospects who could use TV commercials to advantage include local department stores, jewelry stores, personal loan companies, clothing stores, gift shops, ice cream companies and dairies. Entertainment purveyors, such as fairs, amusement parks and roller rinks will find television advertising particularly productive results. Often the best sponsors are found among wholesale houses, where their advertising can be made to benefit a number of local outlets and the cost therefore may be spread over a more substantial share of resultant sales. Frequently, where local merchants advertise products on TV, the jobber or wholesaler will enter a cooperative deal whereby they assume part of the advertising cost. A simple spot announcement of this type might be a fifty-second commercial extolling the merits of the “Atomic Waffle Iron,” followed by a ten-second “tag” at the end listing names and addresses of local merchants handling the product.

So much for the selling angles of the TV commercial.

The actual production requires knowledge of the pictorial composition necessary for good TV reproduction, as well as an understanding of the density problem. Both of these factors materially
affect the ultimate pictorial quality on the home TV receiver screen, and if the quality is not satisfactory, the sponsor's message suffers.

The television pickup camera, the transmitter itself, and the average home receiver all introduce a measure of picture degradation. While the results may not always be too bad in the original film, the distortion introduced by the reproducing and transmitting processes frequently serve to exaggerate the original defect to a point where the final screen result is hardly acceptable. Obviously, then, it is important that the TV advertising film be of the best quality.

Space does not permit going into detail as to the technical qualities of films for television. Many excellent works have been published on this subject. One that can be recommended is "Movies For TV" by John H. Battison. Some of the immediately important points to be considered are as follows:

**Framing:** Because the average home TV receiver does not show the entire picture area established for motion pictures (i.e., the 3 by 4 ratio) those making films for TV must keep in mind the actual TV tube area and frame scenes, titles, etc., accordingly. This is especially important in filming titles; here it is necessary to leave ample space between the text and the four margins of the reproduced picture area.

**Resolution:** Due to the construction of present-day TV receivers, one cannot expect resolution to exceed 180-200 lines per inch. This means that best picture results follow where the set or title card makeup is kept simple—not "busily." Fine print in labels and titles therefore, rarely is discernible on the TV screen.

**Ratio:** Because television yet is unable to reproduce all the shades of grey between black and white, contrast in compositions must be given special attention. The film format and TV receivers may have a contrast ratio of forty to one, a TV receiver is considered in excellent condition that can produce a ratio of twenty to one.

This fact has created considerable discussion as to what is the proper procedure for lighting in making TV films. In the beginning, extremely flat lighting was considered the most desirable. "Light as if for color," was the general advice. Then it was discovered that this procedure resulted in the foreground melting into the background—no separation. Today, plenty of even illumination, augmented by substantial highlights or backlight will render desirable separation between the object photographed and the background for television films.

**Film:** Any standard fine-grain reversal stock may be used for making black-and-white TV films. Film speed, of course, will depend upon lighting conditions. The reversal or original can be used for editing. Use of original for telecasting purposes is not to be recommended, unless the film is to be given only a single projection. Otherwise, have a double-negative made of the original, even though the result may be slightly more contrasty than desired. From this the release prints are then made. If there isn't a competent film laboratory in your area, your film may be air-mailed to anyone of the several major labs situated in New York, Washington, D.C., Chicago, St. Louis, Los Angeles, and San Francisco. Prompt service is available from all.

The modest producer of TV commercial films, about whom we are concerned here, will undoubtedly also handle the "scripting" of such films. If he has an associate who can do this phase of the production, all the better; but in most cases, it is part of the overall production chore of the home spot film maker handling this function for independent television stations. Here, again, is another subject to which a whole volume could be devoted. The small producer can secure a valuable education in scripting by studying spot TV commercial films appearing on his home receiver.

Generally speaking, the average one-minute commercial format will contain the sponsor's name, sometimes his address, and a presentation of his product or service. Combining live action with animation is considered more effective than using either exclusively. The twenty-second spot is paced faster; only the most pertinent selling points can be shown. These may have to be pointed out instead of demonstrated. Often the twenty-second spot is cut from a one-minute spot. In some cases, the two formats may be worked out together at one filming so that the animation sequence in the full-length spot serves as the twenty-second spot when used alone. The ten-second spot is frequently the most difficult to produce with the most effective results. The station-break spot must also include the station's call letters, both audio and visually. Usually it is considered satisfactory to superimpose the call letters and channel number in one corner of the screen for the full ten seconds. Of this time, four seconds are allotted the announcer to make the break orally, leaving approximately three-quarters of the screen time for the sales message, and six seconds for copy.

An example of a typical script pattern is one which we prepared at WFMY-TV extolling the merits of fresh oranges. It was for a one-minute spot:

Opening is simply the trademark of the orange—white letters on black background, made in a title. Shot of bawl of oranges, decorated with holly, fades in behind title. Audio copy meanwhile

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Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

• Frank Planer, “The 5000 Fingers Of Dr. T.” with Peter Lind Hayes, Mary Healy, Tommy Rettig, Hans Conried, Bob and Jack Heasley. Roy Rowland, director.
• Henry Freulich, “Last Train From Bombay,” (Esskay Prod.) with Jon Hall, Liss Ferraday, Fred Sears, director.

Independent

• Clyde De Vinna, “The Jungle,” (Voltaire Prod., shooting in India) with Rod Cameron, Cesar Romero, and Marie Windsor. William Berke, director.

M-G-M

• Charles Rosher, “Story Of Three Loves,” (Technicolor) with Moira Shearer, James Mason. Gottfried Reinhardt, director.
• William Daniels, “Plymouth Adventure,” (Technicolor) with Spencer Tracy, Gene Tierney, Van Johnson, Clarence Brown, director.
• Paul C. Vogel, “You For Me,” with Peter Lawford, Jane Greer, and Gig Young. Don Weis, director.

Paramount

• Lionel Lindon, “Tropic Zone,” (Technicolor) with Ronald Reagan, Rhonda Fleming, Noah Berry, Jr. Lewis R. Foster, director.

R.K.O.

• Charles Lang, “Sudden Fear,” (Jos. Kaufman Prod.) with Joan Crawford and Bruce Bennett. David Miller, director.
• Harry Stradling, “Hans Christian Andersen,” (Samuel Goldwyn Prod.) (Color) with Danny Kaye, Farley Granger and Renee Jean-Marie, Charles Vidor, director.

20th Century Fox


Universal-International

• Russell Metty, “Yankee Bucketeers,” with Jeff Chandler, Scott Brady, Suzan Ball, Joseph Callesta and George Mathews. Frederick de Cordova, director.
• Carl Guthrie, “The Riding Kid,” (Technicolor) with Richard Conte, Viveca Lindfors, Barbara Britton, Leslie Selandar, director.
• Charles Boyle, “City Beneath The Sea,” (Technicolor) with Robert Ryan, Suzan Ball, Anthony Quinn. Budd Boetticher, director.

Warner Brothers

• Ted McCom, “Danger Forward,” with Cornel Wilde, Steve Cochran, Karl Malden, Phyllis Thaxter. Lewis Seiler, director.
plugs the fact "They're back!" Cut to a five-year-old girl selecting oranges from a full crate. Girl hands orange to mother off-screen. Cut to mother squeezing half an orange (How easy—how much juice per orange?) Then a closeup of girl drinking big glass of orange juice. Cut (3 to 5 seconds) of mother also drinking glass of juice (For children and grownups . . . so healthy!), then back to child as she finishes glass. Next sequence begins with closeup of big empty glass on kitchen sink. Three oranges appear—one, two, three—beside the glass (by stop motion), and then the glass magically fills to brim with juice (again stop motion). Cut to poster with sponsor's name and picture of product for five seconds to end the spot.

The filming equipment used was simple: a Bolex 16mm camera, a tripod, and four RFL-62 photoflood lamps. Staging was done in a room convenient to studios. A total of 100 feet of black-and-white film was exposed for the one-minute spot, and edited down to the necessary length. The production of TV spot announcements, described here, takes nothing away from the big professional studios. On the contrary, it contributes ultimately to the business of such companies; the small advertiser would possibly never attempt TV advertising were it not for the local film producer tied in with the station and able to make such films at a nominal rate commensurate with his ability—or desire—to pay. Many such advertisers, once they cut their teeth on the local film product, progress to more ambitious TV advertising programs. And it is at this point that the larger, better-equipped producer usually takes over. In the meantime, however, the local television station and its clientele of revenue-producing sponsors have been well served.

**FILMING 'VIVA ZAPATA!'**

(Continued from Page 155)

"Zapata" are characterized by richly graphic lighting that produces an effect of boldly modeled charcoal drawings come to life. In these scenes a minimum of fill light was used. The result—a style of photography full of gutsy realism. When the lighting changes to low key, as it does in the love sequences, there is a mellow quality accentuated by rim-lighting and back-lighting. In keeping with natural light sources, the characters sometimes walk from light into darkness, so that their faces are completely shadowed—a far cry from conventional feature production in which the stars' faces must be clearly visible at all times.

The main problem in lighting these interiors was the fact that because they were actual buildings on location, there were no breakaway walls and overhead catwalks for the convenient placing of lights. It was a major problem to get lamps, camera, cast and crew into some of the smaller rooms used as sets.

In "Zapata," camera and direction are so perfectly integrated that it is difficult to tell where the effect of one leaves off and that of the other begins. This unity of technique is the result of the very closest co-operation between director Kazan and cinematographer MacDonald who had previously worked together on two 20th-Fox features, "Pinky" and "Panic In The Streets." Before production began on "Zapata" Kazan and MacDonald thoroughly discussed action patterns and mood, carefully pre-planning the camera angles and lighting.

"'Gadge' Kazan is a cameraman's director," MacDonald explains. "He encourages originality and fresh approach. Furthermore, he's willing to throw convention out the window to get a daring camera effect. All through the filming of 'Zapata' he kept encouraging me to 'be bold!"' This meant that the camera was free of the restrictions and inhibitions that sometimes hamper the creative photography of a film. We were free to adopt any camera angle or effect that would help tell the story more dramatically."

MacDonald is not the man to dream up complicated, high-sounding theories about cinematography. His one basic tenet is: "Keep it simple!" Nevertheless, he is a serious student of the aesthetics of photography—and recently, while on location in Europe shooting background scenes for "Diplomatic Courier," he spent long hours in the Louvre Museum studying the composition, color and lighting of the world's foremost painted masterpieces.

He started his motion picture career 30 years ago and has been at Fox continuously since 1929. In 1935 he was made a director of photography, and his initial assignment was a Spanish language film titled "Rose Of France." In recent years he has photographed such outstanding features as "My Darling Clementine," "Pinky," "Fourteen Hours," "Panic In The Streets," "Yellow Skies," "Down To The Sea In Ships," and, of course, "Viva Zapata." He is currently completing work on his first Technicolor assignment, John Ford's production of "What Price Glory?"

Producers Jerry Wald and Norman Krasna are establishing annual awards for the best films made by students of film production at American colleges. Entries will be judged by a board of 10 film producers who will select winners in best writing, directing, and camera work.
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WHAT'S NEW in equipment, accessories, service

Kodak Photo-Light Bar for home movie making has been announced by the Eastman Kodak Company, Rochester, N.Y. Lighting unit is suitable for use with either 375-watt medium-beam Reflector Flood lamps or 500-watt reflector Flood photo lamps, etc., with retractable power cords. Holds 18 feet of heavy-duty rubber covered cord, and is equipped with a molded plug.

Unit has built-in tension lock to stop the cord and an automatic re-wind. Price is $5.95.

Magnastripe Service—Ryder Services, Inc., 1161 No. Vine St., Hollywood 38, Calif., announces the addition of Magna-Striping to the long list of services offered the 16mm semi-professional, professional and TV film fields. Magna-Stripe is a narrow 50-mil stripe of iron oxide placed on one edge of 16mm films to provide instant magnetic recording on the film. A small balancing stripe of the material is also applied to the other film edge to facilitate easier re-winding and rolling of the film. Magna-Stripe service costs 3 1/2c per running foot.

Plastic Reel Can—Newest in film cans for 16mm movie makers is a new Kodascope transparent reel can just announced by Eastman Kodak Co., Rochester, N.Y. Made of polystyrene plastic—a product noted for its quality and wear-ability—the new can is so completely transparent that the complete contents of the can are visible at all times. Titles written or pasted on the reel can be read at a glance, and—even more important—a movie maker can see in a moment how much space is left unfilled on any reel.

The new Kodascope Transparent Reel Can will be priced at $1.60 including one 400-foot reel, or it will be available separately at 90 cents.

Ampex Tape Recorders—Kinevox, Inc., 116 So. Hollywood Way, Burbank, announces they have been appointed sales representatives for the well-known Am- (Continued on Page 186)
FOR SALE

NEW: "Neuwald" Double 35 Hub Synchronizer in operating condition, $450.00.

BELL & HOWELL Standard Camera with features as described in the company's literature, $1,275.00. B. H. finder $112.00 extra.

BELL & HOWELL 1,000 ft. Magazines $125.00, 200 ft. Magazines $200.00 each, Wall $85.00. Cases for Cameras, Magazines, Cheap.

NEW: Mitchell Baby Tripod $65.00, High Hats $125.00, Bell & Howell Deluxe Lens $95.00, Mitchell 12 Volt Motor and Cable, switch, light, $150.00. Evyem, Cooke Lens, case, like new $165.00. 16MM Deluxe 400 FT. Capacity, motor driven $279.00, another reconditioned Eastman $295.00.

BELL & HOWELL Spider Turret 16MM Camera $55.00, motor provision extra.

600 Foot Cine Special double frame Magazine $125.00. 200 Foot Cine Special double frame Magazine $125.00. Zeiss 35MM magazine camera F 2.7 $68.50.

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FOR SALE

IN THIS ISSUE

IN THIS ISSUE
American
Cinematographer

Classified Ads

(Continued from Preceding Page)

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AURICON 16MM PRO. Complete NR 24 amp., Auricon tripod, Auto view finder, List price $1,681.00. Sale price $1,695.00. HENRY SCHOFIELD, 2511 West End Ave., Nashville 5, Tenn.

16MM HOUSTON developing machine. Perfect condition. 600 ft. per hour. Positive and negative machine. Model No. 9, $600.00. SAMS ELECTRIC SHOP, Inc., Jersey City, New Jersey.

CINE SPECIAL I, 200 ft. magazine, 3 lens and case, like new $800.00. 2017 Chatwin Ave., Nashville, Tenn.

WE BUY, SELL AND RENT PROFESSIONAL AND 16mm. EQUIPMENT NEW AND USED. WE ARE DISTRIBUTORS FOR ALL LEADING MANUFACTURERS. RUBY CAMERA EXCHANGE, 729 Seventh Ave., New York City. Established since 1910.

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16MM HOUSTON developing machine. Perfect condition. 600 ft. per hour. Positive and negative machine. Model No. 9, $600.00. SAMS ELECTRIC SHOP, Inc., Jersey City, New Jersey.

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COLORTRAN 750 spot kit. Like brand new $225.00. Write Box 397, Highland Park, Illinois.

WHAT'S NEW

(Continued from Page 184)

plex magnetic tape recorder. Addition of the Ampex line enables Kinevox to service requirements of those who need a tape recorder as well as synchronized magnetic film equipment.

Film Exposure Data—Carl Zeiss, Inc., 485 Fifth Avenue, New York 17, N. Y. has published a new, up-to-date listing of the more popular black-and-white and color film ASA exposure ratings in handy booklet form.

This guide is now being furnished with each new Zeiss Ikon Ikophot 11-A bell & Howell 209 West 48th St., New York, N. Y.

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WHAT'S NEW

(Continued from Page 184)

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This guide is now being furnished with each new Zeiss Ikon Ikophot II-A photoelectric exposure meter, as well as all new Zeiss Ikon Contax III-A, Contessa 35 and Super Ikonta BX cameras (which have built-in ASA-calibrated exposure meters).

Magnetic Sound Advice—"Tips On Making Your Own Magnetic Sound Movies" is title of latest "How To Do It" booklet offered by Bell & Howell Company, Chicago, Ill. All the information necessary for the amateur wishing to add magnetic sound to his 10mm films is contained in

booblet. Copies may be had at camera stores or by writing to the company direct, 7100 McCormick Road, Chicago.

Magnetic Film Splicer—The Bob Jones University, Greenville, So. Carolina, announces it is marketing a new splicer for magnetic film developed by one of the University’s affiliates.

Designed especially for magnetic film in accordance with existing standards, one side of the machine provides cutting the film for butt splices, while the other side lines up the film for accurate registration. Splicer may be had for either 16mm double or single perforated film.

FOOTAGE WANTED

16mm Kodachrome on Inca ruins and Lima, Peru. Also Central American jungle and Spanish ruins. Must be professional quality. Box 1147, AMERICAN CINEMATOGRAPHER.
This projection instrument—built to a new design concept—eliminates the three major obstacles to theatrical-quality 16mm. sound projection... excessive wear and high maintenance cost; low signal-to-noise ratio; and excessive flutter.

A major cause of excessive wear and poor quality sound is the constant transfer of shock forces generated in the film pulldown mechanism to other parts of the system. In the Eastman 16mm. Projector, Model 25, the intermittent (film advance mechanism) is completely isolated and independently driven by its own 1440 r.p.m. synchronous motor. Thus, shock forces are sealed off from the rest of the instrument. The sprocket-shutter system is driven by its own 1800 r.p.m. synchronous motor. Exact phasing between the two systems is accomplished by specially designed synchromesh gears. In addition, the take-up spindle, rewind spindle, and blower are driven by separate motors.

New Sound Optics

A highly corrected microscope objective, adjustable for optimum sound quality from any type of 16mm. sound film, permits reproduction of variable area or variable density 16mm. sound tracks at extremely low distortion and a maximum signal-to-noise ratio.

To get the best out of any 16mm. sound film, project it on an Eastman 16mm. Projector, Model 25. For information on installation, availability, and prices, write directly to...
Now Bell & Howell brings the making of sound movies within your reach. Here is the new 16mm Filmosound 202— not just a sound movie projector — not just a magnetic sound recorder — but a combination of both for making and showing sound movies. You need no expert knowledge, no costly professional equipment.

With the Filmosound 202, narration and sound effects to accompany the film can be recorded just the way you want them . . . while all details are fresh in your mind. Changes in the sound can be made when and as often as you want them. Only with magnetic sound movies is this possible at but the cost of the film and SOUNDBRIDGE.

Now you can add sound to old silent films . . . new sound to a film with an obsolete sound track. Use coupon for full details on magnetic sound movies and the new Filmosound 202. Or see your Bell & Howell dealer today!

Record voice and sound effects, and mix voice with musical background, as picture is projected. All recording errors can be easily and quickly corrected. Magnetic recording will last for life of the film, yet can be changed instantly.

You're ready to project movies with sound immediately after you record. Later, to change the sound, erase and record again in one simple step. Remember, your Filmosound 202 will project any 16mm film, silent or sound.

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- Best Cinematography For TV Films

**MAY 1952**
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Here's what the Jones Twins say about their Bell & Howell Cameras in a letter to Robert McCormick of NBC: “. . . We try to ship or shoot 500 feet per day. The Bell & Howell is a rugged little camera. Both of ours have been damaged in combat . . . but we’ve managed to have them repaired by Signal Corps people.”

Features of the New B&H 70-DL

3-Lens Turret Head for instant lens change; Critical Focuser permits precise focusing through the lens; Viewfinder Turret rotates positive viewfinder objectives to match lenses on lens turret; Powerful Spring Motor operates 22 feet of film on one winding . . . maintains speed accurately throughout film run; Hand Crank for short double exposures, other trick effects and unlimited film run; 7 Film Speeds include 8, 12, 16 (normal), 24 (sound), 32, 48 and 64 (true slow motion) frames per second; Film Plane Mark for accurate focusing measurement; Parallax Adjustment corrects from infinity to 3 feet; Eyepiece focuses for individual sight variations . . . increases illumination to the eye up to 600%. Complete with 1” f/1.9 lens only, $365.50.

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AMATEUR CINEMATOGRAPHY

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FEATURES

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Television Film Production

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What’s New In Equipment, Accessories, Service

ON THE COVER

TOM TUTWILER, A.S.C. (left), on location in Bangkok, lines up a long shot with his camera perched on ledge of ancient Siamese temple in Signora, near Malay border. Picture is first native feature production in color by Sathaporn Cinema Co., Ltd., Bangkok film producers. In center is 20th-Fox writer-director Robert G. North, and at right, Annancy, native interpreter.—Photo by Paibon.

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CINEMATOGRAPHY

REVIEWS

Of Pictures Previewed in Hollywood Last Month


“Carbine Williams,” starring James Stewart, Jean Hagen and Wendell Corey, is marked by the same incisive photography that won for Bill Mellor an Academy Award this year for photographic achievement (for “A Place In The Sun”) and which made “Westward The Women” a cinematographic milestone.

Stewart plays the part of Marsh Williams, ambitious North Carolina mountain man jailed on a doubtful charge of shooting a revenue officer and who, while serving time in the penitentiary, developed a revolutionary new type rifle, later adopted by the U.S. government for its armed forces.

The story demanded all the rugged atmosphere of the backwoods locale in which the original incidents took place—even to the shabby, filthy atmosphere of the old prison farm where Williams was confined for a time.

Only an imaginative cameraman could have given these scenes the proper atmosphere and mood through skillful application of lighting and camera technique. Mellor has chalked up another Academy Awards nominee possibility with his expert cinematography of this earthy MGM story—the camera work of which is one of its stellar attributes. Highlights are the shots of Stewart confined in the dog-house dungeon, lighting of the exteriors shot indoors on the sound stage, and the taut atmosphere imparted to the courtroom scenes in harmony with the demands of the script.


In the color photography of “Scaramouche,” Charles Rosher has again excelled himself in camera artistry and has given this top-drawer production the lavish lighting and camera treatment it so richly deserves.

It marks the second time to bat on the MGM lot for this famous story of a Robin Hood character who becomes a clown in order to have revenge on an aristocrat who turns out to be his very own brother. It’s replete with exciting sword play, and here Rosher has applied his camera with magnificent skill in order to give the action the utmost in pictorial impact that builds to a taut climax.

Starred are Janet Leigh, Stewart Granger, Mel Ferrer and Eleanor Parker. Thanks to Rosher’s portraiture technique, the closeups of Miss Leigh and of Miss Parker are breathtaking—delightful both in composition and in the soft, natural color rendition.

Also a photographic highlight are the Newcomb process shots—an MGM technique which seems to improve with every production.

The lavish theatre interiors also demonstrate the fine lighting result obtainable with the new reflected type set lighting recently perfected by MGM’s John Arnold and used throughout the “Scaramouche” production.


Louis de Rochemont who used to produce the “March of Time” features which were so successful on the screen, gives this production his customary documentary treatment and therefore the cinematography follows this technique throughout.

Most of the interiors, therefore, are actual locations and these reflect the result of a paucity of lighting equipment that we do not find in interiors shot on the major studio sound stages.

In true documentary style, even the exteriors have all the aspect of newsreel photography, adding further to the flavor of realism that de Rochemont aims for in his productions.

Cinematographer Brun has done a good job technically and mechanically with the camera in aiming for the documentary approach.

The story, adapted from The Readers Digest and based on actual facts, concerns the activities of the Federal Bureau of Investigation in tracking down Communist agents operating undercover in this country. It’s a fine, informative document—one every citizen should see. There should be more films like it.

Starred are George Murphy, Finlay Carrie, Virginia Gilmore and Karel Stepanek.

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"World's Largest Manufacturer of Motion Picture Processing Equipment"
RAY RENNAHAN (right) last month turned over gavel to Charles G. Clarke, newly-elected president of American Society of Cinematographers.

CHARLES G. CLARKE was elected president of the American Society of Cinematographers last month, succeeding Ray Rennahan who winds up his 2nd consecutive term. Election marks the third time Clarke has been voted into the A.S.C. presidential chair. He held the office during 1948, and was re-elected in 1949.


Incumbents reelected are: Fred W. Jackman, executive vice-pres.; Willim V. Skall, treasurer; and John W. Boyle, secretary.


Alternate Board members are: Joseph Biroc, Norbert Brodine, William Daniels, Paul Eagler, Sol Halprin, Winton Hoch, Fred W. Jackman, Charles Rosher, Philip Tanmura, and James Van Trees.

PASSING OF THE GAVEL from hands of Ray Rennahan to newly-elected A.S.C. president Charles G. Clarke took place at the Society’s installation dinner at its clubhouse in Hollywood the evening of April 21st. At the same time, other new officers for 1952 were duly installed.

A feature of the evening was a demonstration and discussion of the new Anso Color professional 35mm film. MGM’s initial Anso Color Production, “The Wild North” was screened. Afterward, A.S.C. associate member Garland Misener, of Anso’s technical staff, explained features of the company’s negative and positive color films, as well as the intermediate films Anso supplies for special effects.

THE A.S.C’s MAY 12TH meeting is scheduled to be held on stage 2 of General Service studios, during the shooting of the weekly “I Love Lucy” television show, which is photographed by Karl Freund and staff. At that time, the consistent high quality of the show and the excellence of the photography will be honored in a special presentation by the A.S.C. Victor Milner heads a committee working in close cooperation with president Clarke for this special event.

SPECIAL GUESTS OF HONOR at the A.S.C.’s April 12th meeting were veteran motion picture directors Tay Garnett, Howard Hawks and Al Santell.

WILLIAM MELLOR, A.S.C., will journey to Reno, Nevada, the week-end of May 9th. There he will be presented with Reno Chamber of Commerce’s annual Silver Spurs Award for the Best Photography of a Western Motion Picture for 1951. Award is result of poll among the nation’s leading film critics who voted Mellor’s photography of MGM’s “Across The Wide Missouri” tops among western outdoor films released during 1951.

FRANK PLANER, A.S.C., wound up the Technicolor photography of Stanley Kramer’s “5000 Fingers Of Dr. T.” at Columbia on April 19th, and planed out of Hollywood the following day for Italy, where he is to direct the photography of “Roman Holiday,” which William Wyler will direct and produce for Paramount.

WINTON HOCH, A.S.C., last month returned from a 4-week shooting assignment in Israel, where he photographed extensive exteriors and local atmosphere shots for Columbia

(Continued on Page 199)
PROFESSIONAL JUNIOR Camera Equipment...

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FRICITION TYPE
Handles 16mm. EK Cine Special with or without motor, 35mm. Devry; IGH Eyemo, with motor, and 40x6 magazines and all 16mm. camera head. Head is interchangeable with the Ger Drive head. Both types fit professional junction base, Hi-Hat, all-metal tripod base.

GEAR DRIVE
The head, made of Dow Metal magnesium, weighs but 3 1/2 lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal clamps control pan and tilt action from both sides. Worm-driven gears are Govt. spec. bronze.

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For use with Bolex and Cine Special 16mm. cameras. Holds 41/2x5 1/4 round Polar Screen, with handle. Can be rotated for polarization. Covers all lenses from 15mm. filters. Easiest and eliminates need for various filters. Precise and eliminates finest metal stands. Can be permanently attached to camera or quickly detached.

BLIMP for EK 16mm. CINE SPECIAL
This Blimp constructed of Dow Metal magnesium is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits changing focal lengths while camera is operating on tripod. Blimp takes synchronous motor drive which couples to camera, A choral bracket is provided to mount an erect image viewfinder.

SYNCHRONOUS MOTOR DRIVE
110 Volt A.C., Single Phase, 60 Cycle
This motor will run in synchronization with either 16mm., or 35mm. sound recorders. It is provided with a mounting platform which permits removal of camera while camera remains mounted on motor. Drive coupling is made to film-spooling drive which goes into platform base of camera. A worm geared drive is built into platform base. Platform base threads for 

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This light weight GYRO Tripod performs with all the efficiency of larger, heavier and costlier tripods now in use.

New, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm.; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400' magazine. It features Super Smooth Pan & Tilt Action.

Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform available with either 1/4" or 3/8" camera screw.

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Technicolor production, “Salome,” starring Rita Hayworth. Studio reportedly is highly enthusiastic over Hoch’s camerawork.

LOOKS LIKE LEO LION has cinematographer Harold Lipstein and his camera crew “treed” on a parallel. But it’s just a gag shot made during a lull in shooting MGM’s “Fearless Fagan.”

JACK RUSSELL, A.S.C., also was on overseas assignment last month. Russell shot scenes in the Arctic for Lindsley Parsons’ Monogram production, “Arctic Flight.”

ARCHIE STOUT, A.S.C., planned out of Hollywood April 19th for Honolulu, where he is now directing the photography of the independent production, (Continued on Page 230)

AURICON-PRO 16mm CAMERA used by Ted and Vincent Saizis in Okefenokee gator country

Processed in 35mm Technicolor, and now being released by Warner Bros., is the dramatic picture-story, “Land of the Trembling Earth,” the only authentic 16mm color picture ever filmed in the dark interior of Southeast Georgia’s Okefenokee Swamp! This is a saga of raw courage... picturing the daring of two cameramen, Ted and Vincent Saizis (Chicago Local #666 I.A.T.S.E.), and The Naturalist and Wild Life Director of Okefenokee Swamp Park, David Dalie, as they penetrated this unexplored section of the United States, using an Auricon-Pro 16mm Camera. They recorded such amazing sights as huge attacking alligators... a maddened mother bear... swamp snakes in natural habitat... as well as the experiences of men continually facing death... set against the awesome brutality of one of the world’s wildest areas! Watch for this unusual short subject at your neighborhood theatre. It will soon be shown to millions of movie-goers, thanks to the courage of three adventurers and the dependable operation of the Auricon-Pro Camera.

KARL STRUSS, A.S.C., avid stereo fan, was presented one of 10 awards made by Academy of Stereo Arts and Sciences for his stereo slides entered in recent Hollywood competition. Tendering the award is screen star Dorothy Hart.

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The PAR 400-foot magazine is operated by the camera spring motor with a PAR spring take-up, or by an electric motor drive. It is reversible for backwinding, features a footage counter, and permits normal use of the 100-foot film chamber. Both daylight loading spools and film on cores of any size up to 400 feet can be used. The entire magazine is quickly and easily removed, and can be used with the PAR Reflex Finder Magnifier.

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BARGAINS GALORE!
On the Classified Advertising Page of this issue!
More and more cameramen are switching to ARRIFLEX 35

G. "Russ" Carrier, Lansing, Mich.,
with his Arriflex 35 through which he has exposed over half a million feet of film.

 Writes Mr. Carrier: ... I have been a cameraman since way back. After World War II, I obtained an Arriflex 35 and have used it continuously on assignments for Paramount, Warner, Pathé, Telenews, March of Time, N.B.C., and many others. After 500,000 feet of film this camera is still operating as perfectly as on the day I got it.

 I have used the camera at 20 below zero and, in shooting blast furnaces where the wooden tripod legs would scorch unless protected. The Arriflex 35 always came through with 'flying colors.'

 The many exclusive features of the Arriflex 35 are what first attracted me to this wonderful camera. Its reflex shutter shows me exactly what I am getting with any lens, and it permits me to "follow focus" while I shoot. In fact, I judge exposure on the ground glass, and have not used an exposure meter in years.

 Changing a film magazine or flipping the lens turret takes only a matter of seconds. Everything is ready for finger-tip control, and the entire camera is beautifully balanced for hand-held shooting.

 A cameraman's work is very demanding . . . and, a camera which simplifies his problems is mighty welcome. That's the way I feel about my Arriflex 35. I affectionately call it: OLD FAITHFUL

ARRIFLEX

Model II

The ideal 35mm movie camera for TV Newsreel, Industrial, Travel and Scientific Motion Picture Photography.

Famous Arriflex Features:

- Reflex focusing through taking lens, even when camera is running.
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- No parallax or other finder problems.
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SOLE U.S. AGENTS
SEVEN-YEAR-OLD Son-of-the-Hunter lives a pastoral existence with his nomadic parents. Comes time for him to go to school and he gets his first hair cut, his first suit of white man's clothes.

SCHOOL authorities have difficulty handling the Indian lad, who yearns for the simple life of his pre-school days. The school teacher persuade him to stay by presenting him with a new pocket knife.

"NAVAJO"

Photographed in the rugged beauty of Arizona's Navajoland, this film will stand alone on Virgil Miller's eloquent black-and-white photography.

By HERB A. LIGHTMAN

Given the same script, it is not likely that any major studio, with all its unlimited resources and facilities, could have matched for sheer quality the little independent production "Navajo" just beginning to make a dent on movie audiences of America. Reviewers are unanimous in their acclaim for the picture's photography—the work of Virgil Miller, A.S.C.

"Navajo" started out very much like any other Hollywood motion picture production, except that the cast and crew were small in numbers by comparison, and the equipment taken on location consisted of the very barest of essentials. It was the initial independent production of former actors Hall Bartlett and Norman Foster, and was filmed almost entirely on location in and near the Navajo Indian reservation in Arizona. But what began as a normal photographic assignment for director of photography Miller ultimately became one that revealed all the genius and resourcefulness, not to mention the versatility, that marked him one of the industry's top cinematographers a few years ago.

Miller came out of semi-retirement to photograph "Navajo" for his old friend Bartlett, and the step seems destined to lead him back to full activity again as director of photography of feature films. On this assignment, Miller not only photographed the picture but doubled in brass as actor, jeep driver, and camp cook—all as result of unexpected exigencies which arose and repeatedly called up all the resourcefulness of the little production company struggling against nature's elements far out on the Arizona desert wastelands.

The company encountered surprises, disappointments and frustrations with uncommon frequency almost from the very beginning, yet it seems that these very frustrations only stiffened their resolve to accomplish what they had set out to do and resulted in the simple,
BUT THE LAD can stand the confinement of school no longer. He escapes and begins the arduous 35-mile trek homeward afoot. The school authorities start off in pursuit.

stirringly beautiful film which has impressed cosmopolitan critics everywhere.

Following the initial press previews, "Navajo" has been honored with a number of distinguished awards for its excellence. It received a top award in the last Edinburgh Film Festival. It was awarded a Gold Medal by Parents Magazine as the "Outstanding Family Film of the Month." Following this, the picture received the Exceptional Merit Award of the Protestant Motion Picture Council. And the following publications cited "Navajo" for their respective Picture of the Month or Picture of the Week awards: Woman's Home Companion, American Magazine, Quick, Scholastic Magazine, Boy's Life, Redbook.

VIRGIL MILLER, A.S.C., veteran cinematographer of more than 250 motion pictures, proves, with his stunning camera work on "Navajo," that old timers never lose their touch. Film reviewers from coast to coast have lauded the photography of this initial independent production of Hall Bartlett and Norman Foster.

HAULING camera and equipment up sheer cliffs became a daily chore in which every member of crew and cast lent a hand. Miller, despite his years, scrambled up and down the hills with all the alacrity of his youthful assistants.

HERE the crew pauses for a "breather" on location in Canyon de Chelly, Arizona. Left to right are Norman Foster, director; Hall Bartlett, producer; cameraman Virgil Miller (puffing on pipe); and assistant Craig Smith.
Stereofilm Making With The VeriVision Camera

Twin-lens camera simultaneously photographs two images, one above the other, on one filmstrip, eliminating "movement parallax."

By DR. F. A. WEBER

Nineteen-fifty-one might be said to mark the year in which stereo motion pictures got their most impressive start toward practical application, both for military uses and for entertainment. Already in the United States, England, and Holland producing companies have been formed for the purpose of turning out large scale film productions in stereo. The success of the stereo motion picture exhibitions at the Festival of Britain last year greatly stimulated this trend.

Much of the history of the development of stereo movies in the United States has been covered in the two articles by J. A. Norling which appeared in the February and March issues of American Cinematographer. A great deal also has been done in advancing practical stereofilm making in Europe, particularly in Holland. Holland is a

very good point for international observation of such developments. Here, for example, we have established VeriVision Holdings, a small private research group which I head, and which employs a number of experts in a continuing research toward the further development of stereofilms.

Todate, some standards relating to stereofilms have been internationally agreed upon, at least among European stereo experts. These are:

Viewing Method: As no commercially acceptable autovision method has been developed as yet, the principal method of viewing 3-dimensional films is with the aid of Polaroid spectacles. (Our research group, however, expects to have good, economically usable autovision grids ready in about a year for screens up to 6 or 7 feet in width—adequate for non-theatrical exhibition of stereofilms. Also, improved Polaroid spectacles of a higher light yield are reportedly being made in West Germany by the Kasemann Works.)

Image Size: All present stereo methods involve a light loss of about 60%. Thus, to get sufficient light to the screen it is generally accepted that each image (L or R) has to be of full aperture dimensions, i.e., 16.05mm x 22.05mm for 35mm film, with an acceptable tolerance of downward of 15%. For 16mm stereofilm, only two full images (each 7.42mm x 10mm) are acceptable.

Single Filmstrip: Here in Europe, where stereofilm development has a long history, it is now generally accepted that both stereotaking (the photography) and stereoprojection should be done by means of a single film. This insures true position of the left and right images in relation to each other, easy printing on existing types of film printers, and a commercially acceptable method of projection. The single filmstrip system combined with full images automatically leads to alternate positioning of the L and R images on the film.

Stereotaking Formula: No agreement has yet been reached internationally about the method of photographing stereofilms. At the moment there exist at least 5 methods: American, Dutch, English, West German, and Russian. All agree, however, on the point that for closeups, very small stereobases (interocular distances) and stereoangles (the angle between the two optical axes going from camera to object) have to be used in order to avoid excessive distortion. In my opinion, the Dutch “minibase-miniangle” formula (part of a “methods” patent) gives by far the best results.

With this formula, created by Reijnders, I produced and directed in 1949 a 30-minute newsreel type stereofilm. This was printed on two 16mm filmstrips (half of it in color). A wide range of subjects, from international motor races and military training to yachting and scenes of a coronation were taken without any prearranging of the subject, and always instantly. Closeups, semi-closeups and long-shots follow one another with effortless ease, any amount of intercutting being possible.

All subjects have their full natural depth—perceptible whether one sits 6 feet or 100 feet away from the screen. There is no eye-strain at all, and all images stay within the border of the screen and seem to extend from there backward.

It was observed that the stereofilms exhibited at the Festival of Britain, and made according to British ideas, cause eyestrain. Often, also, the subjects appear to jump far forward out of the screen, and seem to have exaggerated depth. (Continued on Page 220)
Almost every cameraman has a “gimmick” — some gadget or idea which he uses more or less exclusively to achieve some special emphasis in photography. With Frank Planer, A.S.C., it’s the “Houdini” — a small lighting unit which he holds by hand when photographing a closeup, reflecting light into a player’s eyes to add sparkle to the features.

Planer has employed the Houdini in almost every picture he has photographed in Hollywood, including his most recent — “The 5000 Fingers of Dr. T.” which he recently completed for Stanley Kramer at Columbia Studios.

The lamp got its name through an off-hand remark made on the set one day by a fellow-craftsman while observing Planer crawling beneath the camera with the lamp, as a closeup was being shot. Planer was watching the actor closely and moving the light carefully, keeping it directed on the actor’s orbs. Observing this, his fellow-worker dubbed him ‘Houdini’ — after the famed magician. Later, the term came to be applied to the lamp itself.

The lamp is about 12 by 4 by 4 inches in size. Made of sheet metal, it has a curved reflector surface. The front is covered with a panel of diffused glass and there are slide tracks which take a narrow spun-glass diffuser panel. Light source consists of two 110-volt 60-watt lamps, each controlled by a separate switch. The unit invariably is

(Continued on Page 220)

New Glamour For Closeups

Director of photography Frank Planer uses unique hand lamp to impart sparkle to eyes of players in closeup cinematography.

By Arthur Rowan

The Houdini (arrow) in hands of director of photography Planer reflects light into eyes of Charles Laughton for a closeup for “The Blue Veil.”

Planer applied the Houdini to color photography for first time recently when filming “The 5000 Fingers Of Dr. T.” Technicolor production for Stanley Kramer.
New Color Deal

Greater range revealed in "Royal Journey" travel film photographed on new Eastman color negative by Osmond Borradaile, A.S.C.

On Sunday, March 9, 1952, Bosley Crowther, drama and cinema critic of the New York Times, devoted his column to lauding the color photography of Canadian cameraman Osmond Borradaile, who filmed the visit to North America last year of Britain's new Queen and her husband, the Duke of Edinburgh. Because it points up the outstanding qualities of the new Eastman color film, the full text of Mr. Crowther's column is reprinted here through the courtesy of the N. Y. Times.—EDITOR.

The truly amazing quality of the color photography in the factual film "Royal Journey," now at the Embassy Guild, should arouse everyone in picture business to a renewed realization of the boon that movies have in their ability to throw color onto the screen. And what is more, it should fill with confusion and cause to blush with shame those craftsmen who have been contented with the color they have given us up to now—at least, the outdoor color, upon which nature has begged that they improve.

For here, in this documentary record of the visit of Britain's new Queen and her husband, the Duke of Edinburgh, to Canada and the United States last fall, is revealed—quite as much by chance, we gather, as through the use of a new type of film—what can really be done with color to enhance and enrich atmosphere. In one shot after another in this royal travelogue—which happens to give, incidentally, a remarkably sympathetic view of a couple of patient young people doing an obviously tough and tedious job—there is caught in the naturalness of color some striking characteristic of the place, of the season, the state of the weather and even the time of day.

Have you noticed in color pictures how the time never seems to change—how it is always high noon, when it isn't nighttime—and how the weather is almost always clear? (When it isn't, of course, it is usually obvious that the scene has been shot in a studio.) Well, in this actuality picture, shot almost wholly on the run by camera men of the National Film Board of Canada, racing along with the royal entourage, you get the golden luminescence of a

(OSMOND BORRADAILE, A.S.C., used a portable Arriflex 35mm camera with a special gunstock mount most of the time in photographing the color travelogue "Royal Journey.")

(Continued on Page 215)
EASTMAN
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Distributors
Fort Lee       Chicago       Hollywood
Normal Cinematography
Best For Television Films

Lack of standards and too much knob twisting by station monitors, not inferior photography, responsible for poor transmission quality of television films, survey shows.

By ARTHUR MILLER, A.S.C.

The first comprehensive survey of the technical requirements of motion pictures for television has been completed in Hollywood by a special research committee of the IATSE Studio Photographers' Local 659. Purpose of the report besides that of supplying answers to many problems besetting TV stations and producers of video films alike, was to determine if TV films require a lighting and photographic technique different from that employed in making theatrical films.

The result was a long and interesting study of television over a three-year period. As chairman of the committee, I became perhaps the most avid watcher of TV programs in Hollywood with probably the highest score in "air time" of any video viewer. This was necessary, of course, in order to study the quality of TV films as they came over the air, the type of films generally being televised, and to observe which lighting formulas and camera techniques produced the best results for television films.

A most interesting thing happened about the time the survey had been in progress six months. After having observed on my home receiver countless "westerns" and other "old Hollywood films"—the quality of which was dubious, to say the least—one evening there came over the air a feature-length motion picture which was remarkable by comparison. It was "Tomorrow Is Forever," produced by R.K.O. in 1945 and photographed by the late Joseph Valentine. It was clear and sharp, virtually as good as any picture one would see on a motion picture screen.

The question naturally followed: "How come this old picture came over television with such fidelity?" It resulted in an important discovery in our survey: that much of the poor quality of video films as observed on home receivers is due to faulty electronic systems of the telecaster, to poor judgment of the engineer handling the monitor controls in the station, or both. Further study revealed that a given film televised by one network station appeared differently on home receivers than when televised by another station. The difference lies in the difference in equipment, in the difference in the standards established by each station's engineers. In short, much of the trouble still exists because of the lack of standardization in the television industry.

Perhaps the strongest point here is the fact that a new factor enters into the telecasting of motion pictures—the privilege vested in the network's engineering staff to control contrast and shading as TV films are being broadcast. As long as this condition exists, there can be no fancy lighting of TV films. The producer of television films must recognize the fact that lighting effects on a small screen should be kept to the minimum.

The survey further revealed that some TV stations have improved their equipment to the point where reproduction quality of TV films is identical with the photography. These stations for reasons of their own do not share their technical secrets with other stations, which are lagging in the telecasting quality of films.

This at once suggests that the photographic quality transmitted by some TV stations does not represent a true repro-
duction of the film cameraman's work. To emphasize this fact, it is interesting to note the results of one special survey we made of films made especially for TV. We conducted a test of the various films stocks currently used in the production of motion pictures for television, to determine which film or combination of films gave the best results. We encountered cameramen and TV film producers who preferred DuPont negative and positive exclusively; others who preferred DuPont negative, with prints made on Eastman positive; while still others preferred both Eastman negative and positive. All claimed their combination gave the most ideal results.

So we took a typical DuPont negative of a popular TV film show and a typical Eastman negative of another show to a major laboratory in Hollywood, which does most of the processing of locally-made TV films. Here we had prints made in various ways: an Eastman positive print of the DuPont negative; a DuPont positive of the Eastman negative. Then we made prints on Eastern positive of the Eastman negative, and a print of the DuPont negative on DuPont positive. Following this we had the lab make a special print which they believed was the kind everybody was asking for—an extra soft print.

All these prints were then taken to a local TV station and put on the air after the regular programs had ended for the night. Those on our committee viewed the results on their home receivers in their own living rooms. Of all of the prints, the one that gave the best results was the normal print made from a normal negative, and without the station engineer once touching the monitor controls. The point is that the very same technique was employed in the production and processing of this film that would have been employed in making a regular theatrical film.

During this survey, I personally studied just about every TV film show made in Hollywood, looking at the pictures on my home receiver, then noting the comparison in a projection of the films on a movie screen.

The production methods of each TV film producer were studied. I spent days with each company on the sound stage, studying the lighting employed, the way the cameramen and assistants operated, and observed the direction, etc.

Obviously the complete, multi-page report resulting from our survey is too voluminous to reproduce here, and I can only summarize some of the most important conclusions reached as result of the study. In addition to those observations already mentioned above, other conclusions are:

(Continued on Page 230)
chromium, with sound on film, submitted by Glen H. Turner, Springville, Utah.

MAKE ME MAGIC, 150 feet 8mm Kodachrome, silent, submitted by George A. Valentine, Glenbrook, Connecticut.

PHILADELPHIA STORY, 600 ft. 16mm Kodachrome, with musical accompaniment on discs, submitted by Samuel R. Fass, Brooklyn, N.Y.

ROMANCE OF GLOUCESTER, 600 ft. 16mm Kodachrome, with sound on discs, submitted by Bert Seckendorf, Brooklyn, N.Y.

THE SAD DUCKLING, 400 ft. 16mm Kodachrome, with sound on film, submitted by Denny Plumlee, Sun Valley, Calif.

SPEAR THAT FISH!—1,000 ft. 16mm Kodachrome with synchronized sound on tape, submitted by Leon Paddock, Inglewood, Calif.

VENETIA, PEARL OF THE ADRIATIC, 600 ft. 16mm Kodachrome, silent, submitted by Oscar H. Horovitz, Newton, Mass.

WATERS OF LODORE, 1,200 ft. 16mm Kodachrome with synchronized sound on magnetic wire, submitted by Al Morton, Salt Lake City, Utah.

. . . these are the Top Ten for 1952.

CITED for Honorable Mention are:

ACAPULCO—MEXICAN RIVIERA, 750 ft. 16mm Kodachrome, with sound on discs; submitted by Harold C. Ramser, Los Angeles, Calif.

A MIDSUMMER NIGHT’S DREAM, 600 ft. 16mm Kodachrome, silent, submitted by Newell W. Tune, Los Angeles, Calif.

EMERALD STAIRWAY—SULU SEAS, 800 ft. 16mm Kodachrome, silent, submitted by William Griffith Hahn, Seattle, Wash.

GOLDILOCKS AND THE THREE BEARS, 300 ft. 16mm Kodachrome, silent, submitted by Joseph Lowry Fischer, Venice, Calif.

IN THE SKY OVER MIAMI, 275 ft. 16mm Kodachrome, with sound on magnetic wire, submitted by George Merz, Hollywood, Florida.

THE BLACK SATCHEL, 285 ft. 8mm, Kodachrome with sound on magnetic wire, submitted by Al Londema, Salt Lake City, Utah.

THE THING, 300 ft. 16mm Kodachrome with sound on film, submitted by Leo Caloia, Los Angeles, Calif.

TULIPS, CANALS, AND WOODEN SHOES, 700 ft. 16mm Kodachrome, silent, submitted by Oscar H. Horovitz, Newton, Mass.

VACATION HIGHLIGHTS OF 1950.
Winners

All In A Day—Consistently good photography marks this humorous doc¬
ument of the trials and tribulations that beset a man who goes fish¬
ing despite the objections of his wife. Overruling his wife’s plea that he take her to visit her mother, the man sets out on his trip early the next morning. His first disappointment comes when the pal who was to accompany him bows out. Setting out alone, trouble comes in bunches. He gets a ticket for speeding, then a flat tire, and when he arrives at the lake selected for fishing, the boat is flooded with water. After bailing it out, the man rows out on the lake, forgetting his lunch, tackle, etc., and he must return to shore—further building up his state of high dudgeon. Before night falls, he’s fallen in the lake, not to mention the fact he caught nary a fish, so he returns home a sadder but wiser man. But even then, his troubles are not over. His wife, who promised he’d “be sorry” for going on the trip, locks him out of the house. In the closing scene he finds solace in his little son, who remains his only friend.

One outstanding feature of this film is the maker’s ability to cut scenes as he shoots. Result is each scene dovetails snugly with the next, and this greatly simplified, we are sure, the task of editing the film.

A Story Of A Disc Jockey—John Cowart, who has been making movies only a few years, demonstrates with this sound-on-film production that he has all the makings of a real professional. Cowart was an award-winner last year, an honorable-mention winner the year before. This is his most pretentious effort to date. If nothing else, it proves that the lone cine amateur can produce serious films if he has the imagination plus the ability to organize his friends and associates in his projects. Cowart evidently has a well-knit organization of friends whose interest in amateur movies is as avid as his. Most of those who aided him in last year’s production are in there pitching again this year.

(Continued on Page 221)
needed — a new deal for serious amateurs

Swedish amateur reports a decline in interest among amateurs similar to that in the U. S.; offers some solid ideas for infusing new life into the universal film making hobby.

By M. G. Livada

Director, Stockholm Filmamatorer

the article by Alvin D. Roe, which appeared in the July, 1951, issue of American Cinematographer, dealt with the declining interest among amateur movie makers for their hobby. The conditions revealed by Mr. Roe are not confined to American movie makers alone, but apparently are valid throughout the whole cine amateur world. As an example, whereas there have been an average of 90 competitors in the Swedish Annual Film Competition in recent years, the number of participants in last year's Competition dropped to 17.

I shall try to analyze the causes of this decline and to offer suggestions that may tend to remedy the situation:

First, the technical equipment at the amateur's disposal and the continuing improvement of the standards of amateur films throws the cine amateur of today into a grave dilemma. He has to choose between working alone and working within a film society or cine club. He has to decide between employing more help and assistance, more resources, both technical and economical, and the loss of his independence and his individuality as a film maker. If he follows the advice of Pierre Boyer, as related in Mr. Roe's article and which proposed that individual amateur movie makers unite and work collectively in the production of worthwhile films, he must endure all the formalities which working with a film society brings; and if he is compelled to work thus, there cannot be too much enthusiasm and phantasy left.

I do not deny the importance of the facilities and other benefits which a film club offers; but I sincerely confess that it seems to me that club-made films invariably try to follow the historic development of the film instead of opening to it new roads and new horizons; for the amateur film, in my opinion, must possess — before any technical superiority — courage, phantasy, and personality. And if, to such quality, the professional touch is added, with the time, then we may speak of it as an ideal amateur film. The question is: is a compromise possible between team-work and one man's desire for self-expression through film? And if it is, in which way?

I dare to affirm that a compromise is not only desirable but even possible. But for its attainment we need:

a) A new type of film society
b) A new type of film competition
c) Improved competition awards
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To elaborate:

(Continued on Page 224)
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On the deck of a naval cutter pushing out into Vancouver's Strait of George, you smell fog rolling in from the Pacific and see the ugly gray haze of fine rain. And up in the cold Laurentian Mountains you are smothered in bluish-white snow as you follow the royal visitors on a one-horse sleigh ride through a frosty wonderland. Finally, in by far the most dramatic and exciting sequence of the film — which, of course, was arranged by nature, with the cameramen eagerly on hand — you stand by as the leavetaking couple board a tender in Newfoundland's Portugal Cove and go off in a howling sou'easter to reach their ship across a sea of storm-lashed waves.

We cite these stunning manifestations of climate, weather and time to point up the wide range of sensuous and dramatic stimuli that color can provide — a range that has barely been suggested in most of our previous color films. Actually, this happy demonstration is not altogether due to the much greater "latitude" inherent in the new Eastman color process used — a process that works on the principle of exposing one color negative (which is not only more sensitive but more mobile), from which positive prints are made. It is due, in some part, to the pressure under which the cameramen worked, being forced to shoot stuff under circumstances at which the veteran color cameraman would scoff.

For instance, the scenes in the Laurentians — the sleigh-ride scenes mentioned above — were shot in complete desperation by the chief lensman, Osmond Borradaile. He figured the weather was so terrible that he couldn't get a thing, but he had some film in his camera so he shot it anyhow. They say that he practically fainted when he saw the beautiful prints that came from the lab.

This is, of course, the lesson that directors and camera men must learn — to reach for effects with color in full confidence of the responsiveness of their film. Whereas, in average outdoor shooting, they wait for conditions to be ideal (or regulate them with false lighting), the demonstration has now been made that they can actually look for poor conditions in which to capture shades of atmosphere and mood.

Control in the studio is one thing — and is not to be scorned, by any means. We have seen some handsome examples of the dramatic use of color on the
studio stage. One bit is currently evident in Metro's "The Belle of New York," a story-wise mediocre musical, now at Lowe's State. Against a dark-blue backdrop, a black shadow ominously looms. Suddenly a stab of white light hits it and reveals it to be Fred Astaire in a white linen suit and white straw boater, all ready to go into his dance. The effect is electrifying. This sort of thing can't be beat.

But, in outdoor shooting, the field is open, and we are very happy to report that pictures will soon be forthcoming on which this new basic process has been used. We are eagerly waiting for them. Maybe we'll see a real dawn.

"NAVAJO"

(Continued from Page 263)


The story theme of "Navajo" concerns a seven-year-old Indian boy, Son of the Hunter, who lives a pastoral existence in the reservation wilderness with his nomadic family until one day he is "captured" by the white men and sent off to school. His glowering but passive resistance to his hated captors, his reluctant introduction to the white man's haircuts and shower baths, and the hair-raising chase over the cliffs which he leads the authorities after his escape from school, add up to absorbing entertainment that is refreshing in its off-the-beaten-track appeal.

Playing the lead role is a young Navajo moppet, Francis Kee Teller, who was as rambunctious and difficult to handle as the fabled lad in the story. Chosen from a group of unschooled Navajo lads who never had heard of movies before, and perhaps yet do not understand what all the movie shooting on their reservation was about, Francis was at best a doubtful candidate for the role. But after reports on the first rushes were telephoned to producer Bartlett, any doubts about the lad's screen appeal evaporated into a new atmosphere of optimism.

While "Navajo" owes much of its dramatic force to Norman Foster's incisive direction, it is equally a cameraman's picture—and one cannot praise too highly the superb technical skill with which director of photography Virgil Miller has recorded the breath-taking scenery on film. Other reviewers have called Miller the "unseen star" of the film, and with good reason, for his inspired photography all but steals the show.

The picture was filmed in a primitive area of rugged cliffs and canyons about
100 miles from Gallup, New Mexico. The main locations include Chinle (a small trading post), the awe-inspiring Canyon de Chelly, and ghostly Death Canyon where a band of Navajos once holed up and resisted Kit Carson for three years until betrayed by another tribe. Here the intrepid Hollywood production crew lived and worked under the most primitive conditions during the three months of shooting. Here there were no “accommodations,” in the usual sense of the word.

The production was filmed during the late autumn months. The main hardship was the extreme cold which often froze the car motors every night and played hob with the camera. Earlier the company had been warned they must leave the Canyon before a certain date or risk being snowed-in for the rest of the winter. When they had not finished shooting by that date, they decided to take the gamble and continue shooting. They just managed to get out before the first snowfall.

In the sub-zero temperatures the camera motor failed and the batteries gave out. Production was held up until another motor and batteries were flown from Hollywood to Winslow, Arizona, and transported by car to the location. Much of the action in the picture takes place high up on cliffs, which made it necessary for the heavy Hollywood studio-type camera to be completely dismantled and packed by the crew up the side of the mesa. At such times, cast and crew were constantly endangered by avalanches of falling rock.

Cinematographer Miller surprised the company by the sure-footed manner and speed with which he scaled the sheer cliffs. Many years before, when he was photographing a series of Westerns, his mountain goat ability to negotiate the cliffs earned him the nickname of “Split Hoof.” His athletic maneuvers on the rocks during the filming of “Navajo” made the nickname popular again.

To film the picture’s few interiors (inside the trading post and the school), Miller used five ordinary photoflood lamps. A constant nuisance was the fluctuating electrical current which often caused the light level to change radically right in the middle of a take. The company was not equipped with portable generators or batteries large enough to run these lights as booster-lamps outdoors—a real necessity when shooting during late afternoon or evening hours. Miller was obliged to do the best he...
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come really ill and jinx the production, to say nothing of his choleric little self,” said Miller.

The young Navajo hired as interpreter provided a finishing touch to the company’s woes. Whenever he became angry, he would retaliate by translating the wrong directions to the cast. But in spite of all this teepee temperament, the company managed to complete an excellent motion picture.

The photography in “Navajo” is so visually striking that each scene looks like an etching in motion. The overall style is characterized by richly filtered skies, dramatic angles, and an inspired use of natural light aided by just a few simple reflectors. The panoramic compositions inside the canyons are breathtaking—and no less forceful are the extreme close-ups of the Indian characters themselves. Miller’s night scenes, filmed in daylight through a combination of 25A (red) and 66 (green) filters, are especially effective. Perhaps the most visually powerful sequence, however, is the one in which the boy’s overactive imagination coupled with his fears of the night, conjures up ghostly faces of the Indian dead. The eerie camera treatment of this sequence builds suspense to a hair-raising climax.

To those familiar with Virgil Miller’s professional background of 40 years in the motion picture industry, his masterful lensing of “Navajo” comes as no surprise. A graduate mechanical engineer who also holds a degree in electrical engineering, he got his start in the picture industry by setting up the first electrical department in a major studio. An artist of genuine talent, he combined his art skill with his technical knowledge and a great deal of work in special effects before switching to cinematography.

A veteran of 250 feature films, and 55 Fitzpatrick Traveltalks shot in Technicolor, Miller headed Paramount’s camera department for 8 years, and later was in charge of photography for David O. Selznick for a year. He filmed the original “Phantom of the Opera” with Lon Chaney, and has worked with more than 50 of Hollywood’s leading directors.

Miller is credited with having developed the first combination filters for night effects, as well as a revolutionary type of diffusion disk. He is an expert in all of the color processes, and has originated many complex special effects.

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before the boat docked at the island. On another occasion, when shooting in a remote Pacific Northwest location, a 101-foot camera tower toppled over, smashing the camera. Miller took the shattered machine apart and worked from 3 p.m. to 2 a.m. getting it back into working condition.

STEREOFILM MAKING WITH VERIVISION CAMERA

(Continued from page 204)

The 16mm test film mentioned above was exhibited in 1949 in The Hague, Holland, and in 1951 in London and Coventry, England, before assemblies of experts. It is the opinion here that the photography of practical stereo feature films, as well as industrial and documentary stereo films will have to be done along the lines suggested above to assure an acceptable film product. To be universally acceptable, a stereofilm camera should offer stereobases from as small as 1/2 inch up to about 8 inches (or more), and stereocylinders from 0.3" to 3" or more.

In 1951, I saw reason for applying for patents in various countries for a universal stereofilm camera using single 35mm film, and which takes simultaneously two full images on the single filmstrip. Thus, "movement parallax" between the L and R images is avoided. Stereobases and stereoangles between the above named limits are made possible with this camera. It should be noted also that the same filming system is applicable to photographing 16mm stereofilms.

The VeriVision camera—VeriVision is a registered trademark—consists of a modified standard 35mm motion picture camera. The modification is applicable to most standard motion picture cameras such as Mitchell, Bell & Howell, Wall, Debric, Newman-Sinclair, Askania, Arriflex and Cameralex.

The modified camera is mounted on a special stereobase, having two front-aluminized plane mirrors, as may be seen in the accompanying photo. At the back is a six-sided ruler calibrated to predetermined stereotaking formulas, each of its sides corresponding with one focal length of the set of lenses used. Thus the cameraman need only see that this rule is properly positioned with relation to the pair of lenses in taking position on the camera, and to place the sleigh (movable base), bearing the larger of the two mirrors, opposite the number giving the distance from camera to object in feet.

Turning (rotating) the six-sided ruler on its longitudinal axis automatically adjusts the stereoangle. When a tracking shot is to be made, the sleigh is moved along the ruler in the appropriate manner. That is all. No calculations (other than that necessary to determine the distance of camera to object) are necessary. Thus anything—that is, any subject or action—can be shot instantly. The small, negligible vertical parallax caused by the use of two lenses one above the other may, for very special purposes, be corrected automatically.

The steps necessary to modifying a standard 35mm motion picture camera for the VeriVision stereofilming method are as follows:

a) The film transport mechanism must be redesigned so that two standard frames of film instead of one are pulled through the movement at one stroke—the stroke being 38.00mm.

b) The film gate aperture has to be doubled in size in order to permit exposures of two standard frames of film at one time, with the usual dividing-line of 2.97mm provided in between the frames.

c) The camera viewfinder must be turned 90° and remounted in this position, as the camera is used 90° to normal when photographing stereofilms. (See illustration.)

d) The single lens mounting must be replaced with a new twin lens mounting, providing for two lenses one above the other, as may be seen in the illustration.

Stereo systems which provide for photographing two images at the same time through one lens have proved unsatisfactory. Use of the single lens results in serious image degradations of a trapezoid character, as well as loss of light. Fortunately, the best results in stereofilming follow the use of wide-angle lenses. Thus, for instance, two 28mm f/2 lenses can be used. Lenses up to 75mm in length can also be used for 35mm film.

The two lenses must be mounted in the camera with perfectly parallel optical axes, the interaxial distance being 19.00mm. A blackened separation over the total length of the lenses and extended to the division between the two-frame aperture in the gate (with a slit for the shutter, of course), is necessary in order to keep each image free of interference from the other.

The standard lens diaphragms can no longer be used. These must be replaced by insertion-type calibrated diaphragms. Of course, with this method of mounting, there is a small measure of vertical parallax; however, this amounts to only 1°5' at 1 meter distance, and diminishes rapidly to only 3° at two meters distance. This parallax is substantially corrected during projection of the film, when the two images are superimposed on the screen. It is also possible to introduce a method of automatic correction in the stereobase adjustment. It should be noted that the camera itself is also placed on a sleigh to permit adjusting its position in relation to the small plane mirror, according to the length of the lenses used.

Present plans of VeriVision Holdings call for licensing camera manufacturers to modify their own cameras for stereofilming by the VeriVision method. Such an arrangement already has been made with one English manufacturer.

In order to project VeriVision stereofilms, certain modifications of standard projectors are necessary. These include the use of sprockets of double diameter (or a change in gearing) to produce twice normal film transport; replacement of the standard gate with a double gate, so that one L and one R image are projected simultaneously; and the installation of a double prism at a suitable distance before the projection lens. The standard projector lens and lamp-houses are not changed.

GLAMOUR FOR CLOSEUPS

(Continued from Page 205)

connected through the dimmer bank so that its intensity may be varied at will. Actually, says Planer, the Houdini reflects rather than directs light. Its purpose is to put a tiny dot of light known as a catchlight in the pupils of the eyes of players in closeups. It’s an important compositional touch that adds much to the naturalness of a player’s expression—a touch that was used by great painters and portraitists long before there were motion picture cameras. Planer has simply applied to cinematography a favorite trick of the old masters, using a unique light source of his own invention. “I could achieve the same effect with a lighted match,” Planer said, “but no need to risk burning my fingers every time I shoot a closeup when there’s electricity at hand.”

The lighting effected by the Houdini is not to be confused with that of the well-known eye-light, used by every studio cinematographer and also by Planer. It is not a “fill light” and its...
The significant touch it gives is only effective if the light remains in the eyes throughout the take. This means that if the player moves appreciably in the closeup, the light must move with him in order that the pin dots of catchlight will remain constant. For this reason, Planer always handles the Houdini himself. It is probably the only lighting on the set not handled by a gaffer and is indeed truthfully outside the realm of the gaffer's operations. On the set, as the camera operator keeps the lens focused on the action, Planer invariably will be seen, light in hand, crouching low in front of the camera, lying on his back or crawling on his stomach as the take is being recorded, keeping the light from the Houdini directed on the player's eyes.

While this light adds a flattering note to a player, it cannot be used on all eyes. On dark or "black" eyes of extreme brunets the little dot of light overemphasizes the eyes—"Gives them a villainous appearance," says Planer. It's ideal, however, for all gradations of brown and blue eyes.

The Houdini is just one of those little ingenious tricks that make a cameraman an individualist—causes him and his work to stand out a little stronger than the rest. Planer's photography in recent years has been rated among the best. Some of it has won national awards. Recent credits, in addition to "5000 Fingers of Dr. T," previously mentioned, include "Decision Before Dawn," "Death of a Salesman," "The Blue Veil," "Cyrano De Bergerac," and "Champion."

Planer won the Hollywood Foreign Correspondents' Annual Golden Globe Award in 1950 for his photography of "Champion," again in 1951 for "Cyrano De Bergerac." This year the same award was presented him for the photography of "Death Of A Salesman." He also won the 1951 Look Award for photography of "Decision Before Dawn." In all these pictures, Planer says, his faithful Houdini contributed considerably toward the photographic quality of the closeups.

AWARD-WINNERS

(Continued from Page 211)

The picture is a bold undertaking for Cowart. The synchronized sound, the lip-sync dialogue, all are vital to the story. Indeed, the sound recording is an outstanding accomplishment in itself.

The story concerns an incident involving a psychopathic criminal at large. It is told partly by a radio narrator during

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his nightly program and through flashbacks of the action itself. All action takes place at night, which placed an added burden on the abilities of Cowart. Nevertheless, his lighting of the night shots, both indoors and out are as good as one sees in theatre films today.

The closeness of the radio narrator could be cut a little tighter, thus speeding up the pace, but that is about the only serious criticism one can find with this unusual amateur production.

In Fancy Free—Like John Cowart, mentioned above, Glen Turner has, in a remarkable short time, established a reputation for turning out prize-winning films. Although he entered American Cinematographer’s annual competition for the first time this year, he has twice during the past three years won top awards in the annual Ten Best competition of the Amateur Cinema League.

Like Cowart, Turner also is fortunate in being surrounded by enthusiastic and capable associates who gladly lend their time to the production of his serious 16mm films.

“In Fancy Free” is a fantasy, imaginatively planned, photographed, and edited, which pictures the day-dreams of a young woman as she sits by the window looking out on her garden. Nearby objects, such as a Buddha, a porcelain figure of a dancer, a flower, and the passing of friends by her house set her to reflecting on her greatest wish—to be a dancer. She becomes absorbed in these dreams as a participant and the dances she imagines are laid against colorful and symbolic backgrounds.

As the picture unfolds, narration by a young woman with a remarkable appealing voice tells the story of the young girl’s desires, and then in the closing sequence, we learn in a brief heart-tugging climax that the girl, a cripple, can never take part in the activities of her dreams.

The production is replete with effect lighting and special photographic effects—a forte which Turner ably established in his earlier productions. The dance numbers demanded skill, both in direction and execution; and the musical score, especially prepared by members of the student orchestra of the college where Turner is an instructor, is a vital and moving contribution to the picture.

Make Mine Magic—George A. Valentine long has been one of the nation’s leading 8mm movie makers, because of his knack for consistently turning out capsule movies with a punch, which have won numerous awards. In “Make Mine Magic” Valentine has scored again with an appealing story of a lad who comes into possession of a magic wand, and thereby brings to reality numerous wishes of his and those of his brother and sister. Valentine has a slick way of injecting humor and also a surprise last-minute gag into his movies. His 8mm color photography is consistently good and his editing and titling, as always, is skilfully done.

Philadelphia Story—Sam Fass, having captured some remarkable footage of the Ice Follies in 16mm Kodachrome, set about to weave these shots into an interesting continuity with a logical story line. The director of the ice show summons to his office two likely prospects for one of his ice numbers. When the young women arrive, he projects 16mm movies of his show in order to demonstrate the numbers in which he wishes the girls to take part. When the film ends, the girls agree to join the show and sign contracts—a simple story thread on which the shots of the Ice Follies were deftly strung.

The camera work on the Follies numbers is just about tops. Exposure is all anyone could ask for and each number is carefully chronicled and later edited in a slick manner that gives the illusion it never was carefully planned production.

Romance Of Gloucester—Bert Seckendorf is at his best documenting interesting places and events of this land of ours, and in editing and titling such films to impart sustaining interest on the screen. In “Romance of Gloucester” he has focused his camera on both the interesting places and much of the contemporary life of Gloucester. His discerning lens brings satisfying multi-scene sequences of activities of Gloucester natives, instead of the one-shot treatment so often accorded such material by the uninitiated cine filmers. Result is, one experiences something in viewing this picture on the screen, Seckendorf’s photography is clear-cut, discerning, and shows good taste in composition.

The Sad Duckling—Denny Plumlee credits Hy Knaack as associate cameraman on this unusual film, which demonstrates excellent miniature settings, lighting, and camera treatment. Together, the two have given cine filmers something new to top in amateur movies. A sound-on-film production in 16mm Kodachrome, the narration is a master job and contributes considerably to the production. The narration is clear-cut, discerning, and shows good taste in composition.

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infernno, but escapes unscathed, and skampers back to the peace and quiet of the barnyard.

All of the action was staged on tabletop sets built in a garage by Plumlee. His camera work in this short-range work is excellent and his lighting effects masterful.

SPEAR THAT FISH! — Few professionals have yet brought to theatre screens such scenes as Leon Paddock has captured in this entertaining 16mm color film. Using underwater camera equipment which he designed himself, he and an associate journeyed to the west coast of Mexico where they took the camera underwater and shot scenes of sturdy swimmers with water-goggles and swim-fins exploring the marine life of Mexico's off-shore waters. Shown are divers using spears and spear-guns in hunting game fish, and one diver's encounter with devilfish and other unusual marine life. The climax is marked by a duel between a diver and a shark, with the diver knifing the shark and bringing it to surface.

The color photography is some of the best 16mm undersea camerawork yet to be seen. It demonstrates unusual skill as well as the filmer's knack for obtaining excellent exposures with color film in the admittedly difficult conditions which underwater invariably presents.

The narration on tape contributes
adequately to the screen presentation enhancing the continuity of the slick editing of this picture.

VENETIA, Pearl Of The Adriatic—Oscar Horovitz, in his recent world travels, gives us the benefit of his discerning eye with a studied and beautiful account on color film of the beauties of Venice, Italy. In this picture, he especially demonstrates his uncanny knack for searching out the most dramatic points of interest and for capturing them with his camera in such a manner that even without a running commentary, the picture has unusual appeal. The secret, of course, is Horovitz’s trick of following up his shots with more descriptive shots, in order to tell the complete story. Every sequence, no matter how brief or what the subject, is complete—sufficient. His compositions are artful, adding much to the interest of the picture. Considering that he spent but two days in Venice, he has achieved a remarkable documentary of this beautiful and interesting city.

WATERfOf Lodore—Unlike most letter carriers who go for a hike on their vacation, letter-carrier Morton and a party of friends set out on a boating adventure down the Colorado river during his 1950 summer vacation. Morton recorded the adventure from start to finish, and edited the footage into an absorbing documentary having many thrilling moments. Although the picture is a little slow getting started—the preparation and get-away sequences being somewhat overly-lengthy—the picture, once the boats get underway, is packed with interest and not a few thrills.

It must have been a monumental job making movies on such an arduous journey, for it was often a tough enough job just to keep the boats afloat. Staging the boat action in the rougher waters required infinite patience and camera skill, but Morton has been rewarded with some excellent shots of his fellow-boatmen navigating the dangerous rapids.

Morton shot the picture on 16mm Kodachrome at 24 f.p.s., hoping later to combine the narration on a sound print. At present, the narration is recorded on wire and synchronized with the picture.

Limited space here precludes anything but brief comment on the Honorable Mention films: Harold Ramser’s “Acapulco—Mexican Riviera” is a beautiful Kodachrome documentary of the colorful Mexican resort city. Newell Tune’s “A Midsummer Night’s Dream” has some outstanding photography in which distortion lens attachments were used for some fantastic effects. William Hahn’s “Emerald Stairway—Sulu Seas” is a 16mm Kodachrome documentary of life and scenes in the Philippines, and notable for its consistent color quality and expert photographic treatment. Joseph Fischer’s “Goldilocks And The Three Bears” is an unusual amateur accomplishment in which the filmer and his associates staged the age old nursery tale in miniature, building all the sets, props and the marionette figures themselves. A drawback is the lack of sound narration or continuity titles. George Merz offers a masterful job of photography in his travel film, “In The Sky Over Miami.” Al Londema’s “The Black Satchel,” is a pretentious photoplaylet in 8mm color, showing good camera work and direction.

Leo Caloia’s “The Thing,” is an ambitious effort in a story production, demonstrating excellent camera work. Oscar Horovitz clicks with a second entry in this competition with his “Tulips, Canals and Wooden Shoes,” documentary on native Holland. Fred Evans’ “Vacation Highlights” records the family’s experiences on a trip east to pick up a new car at the factory, with humorous touches and a surprise gag at the finish. Leo J. Heffernan’s “What God Hath Wrought” pictures some of the wonders of Nature, with emphasis on the mighty Niagara Falls. His color photography is excellent.

There’ll be another competition next year. The editors therefore take this opportunity to invite all readers of American Cinematographer who are amateur movie makers, to start now and plan a film entry for next year’s competition. There are ten gold trophies and ten honorable mention certificates to shoot for; and besides, entering a film affords you an opportunity to have your work evaluated by some of Hollywood’s most renowned directors of photography, who each year comprise the jury that selects the Top Ten films in American Cinematographer’s Annual Amateur Motion Picture Competition.

NEEDED—A NEW DEAL

(Continued from page 212)

a) In most of our amateur film clubs, you find only camera owners, and these at different levels of ability. Under such circumstances to try to shoot a cooperative film is as difficult as organizing an orchestra where everyone is a conductor. It is quite logical that a cine club should be organized among men who have the same interests. But the idea retains its validity only as long as these men are willing to vary their experiences, seek advice and mutual criticism about their own films. But it is a difficult task one undertakes when he asks the other fellow to put aside his
camera for awhile and serve as director, actor, grip, or film editor in a cooperative filming project—an activity that may take weeks or even months.

The solution might be to broaden the scope of and the requirements for admission to a film club or society. If it is true that a successful film demands teamwork between different kinds of artists, then to this creative cooperative work let us welcome others who may be interested as amateurs in script-writing, acting, directing, editing and so on. In this way film societies will no longer be camera owners' clubs but really creative film societies. In such groups, sub-groups can then be organized according to member’s ability, scope and resources—groups in which everybody will be absorbed in his favorite phase of the hobby and personal interests.

b) In my opinion, competitions are no longer favorable to the lone cine amateur. In the beginning, the accent was put on the technical side of the film—on the ability of the filmer to record significant scenes and beautiful scenery, to observe life and nature and put them on film. Nowadays standards are higher and the amateur must show his all-around versatility. Amateurs must compete alone or together in all of the film-making departments: scripting, photography, directing, editing, acting, etc. Competitions are led more from an artistic point of view. The struggle for artistic cooperation throws the individual amateur into a society where he finds hardly a solution to his problems. Therefore, a suggestion might be to divide competitions into two classes: for club films and for individual movie makers. For the latter, competition could be based eventually on a given shooting script, in which the amateur may demonstrate his knowledge in all departments of film making. In such instances, all competitors would start on an equal basis—the only real difference between them being their ability to translate a given story to celluloid.

c) A competition ought not to reward the best movie makers only. It should provide all participants with incentive and, more important, with creative and constructive criticism of their films. All those participating in a competition should receive a certificate indicating their participation; also a few words in a letter commenting on their films, pointing out reason for their failures, and suggesting ways to overcome them. In film competitions, the jury evaluating the films represents the national audience—the audience an amateur film rarely reaches. The amateur movie maker must get something from this experience, something which

(Continued on Page 227)
American Society of Cinematographers

Founded January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes nonresident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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20th Century-Fox

Leon Shamroy, "The Snows of Kilimanjaro," (Technicolor) with Gregory Peck, Susan Hayward, Henry King, director.

Milton Krasner, "Monkey Business," with Cary Grant, Ginger Rogers, Marilyn Moore, Howard Hawks, director.


Paramount

Lucien Ballard, "Night Without Sleep," with Linda Darnell, Gary Merrill, Roy Baker, director.

Leon Shamroy, "Tonight We Sing," (Technicolor) with Ezio Pinza, Roberta Peters, Mitchell Leisen, director.

Edward Cronjager, "Bloodhounds of Broadway," (Technicolor) with Mitzi Gaynor, Scott Brady, Harmon Jones, director.

Warner Brothers


Independent


Ernest Laszlo, "Panie Stricken," (Thor Prod.-20th Fox) with Joseph Cotten, Teresa Wright, Andrew Stone, director.

Note: Names of A.S.C. Directors of Photography who were engaged in the photography of films for television last month will be found in the "Television Production column" on page 209.
NEEDED—A NEW DEAL
(Continued from Page 225)

can help him and lead him progressively forward in his hobby. I confess that all this would impose a burden on competition officials and juries, but then, much work also lies behind every competitor's film.

d) There long has been a vital need for a more lively and free circulation of the best amateur films of all countries. I am aware that today this is by no means a simple problem. In the beginning there should be some means of exchanging between countries the best films of their national amateur contests. Perhaps it will be possible to secure an international agreement through UNESCO providing for free circulation of amateur films for non-commercial use. Although international amateur film contests have a special significance, most of them fail in their function if not their objectives mainly because they are viewed only by the jury established to evaluate the films for awards. This situation is as abnormal as would be the international Olympic games viewed only by referees.

Amateur movie making has reached an impasse. In order to revitalize it and to keep it alive, the answer is not organization but rather reorganization—of the amateurs themselves, of film societies and clubs, and of national and international competitions. American Cinematographer magazine is to be commended for opening up a discussion on this vital problem, which surely may be solved through international efforts on the part of all amateur movie makers.

Magna-Stripe Was First

Reeves Soundcraft Corp., New York City, has had available commercially, its Magna-Stripe magnetic sound film and film striping service for more than 18 months. Company reportedly was the first to develop and employ the 50-mil half-track and presently is the only company employing use of the balancing stripe on opposite edge of Magna-Striped films. This feature makes Magna-Striped films lie perfectly flat on the reel without "dishing," prevents shrinkage of film on side opposite the sound track, and prevents film from uncoiling like a spring when wound during editing.

Magna-Stripe, according to Reeves, is the result of six years of research and development. The company has licensed the Westrex Corp. and also Ryder Services, Hollywood, to offer Magna-Stripe service to both professional and amateur film makers.
WHAT'S NEW
in equipment, accessories, service

Hand-held Camera Support—Kadisch Camera & Sound Engineering Co., 123 W. 48th St., New York City, announces a new scientifically-engineered shoulder brace for use with hand-held 16mm and 35mm cameras such as Cine Special, Bolex, Filmo, Eyemo, Arriflex, Auricon, DeVry, etc. Brace eliminates use of tripod, and permits smooth panning and tilting of camera in close quarters.

Made of light-weight aluminum, the Kadisch camera shoulder brace lists for $15.00.

Magnetic Film Splicer—Kinevox, Inc., 116 S. Hollywood Way, Burbank, Calif., announces a new splicer for the editing and butt splicing of 16mm and 35mm magnetic recording film. The Kinevox splicer employs a perforated adhesive tape for the joining medium. An accurate angle cut is made between the sprocket holes of the recording film.

Precision-machined register pins accurately position the film and the perforated joining tape. Non-magnetic stainless steel construction safeguards against imparting extraneous magnetic noise to the recording film during splicing.

Kinevox engineers point to the superiority of the Kinevox-type butt-splice versus the lap-splice method in that the butt splice does not cause film to raise in passing the recorder and playback heads, thereby insuring flawless recording results.

Spacious Showrooms feature new, enlarged quarters of The Camera Mart, Inc., now located at 1845 Broadway, New York City, in the heart of Gotham’s motion picture and television industry. More than 4000 feet of floor space enable the company to display a greater range of movie and TV equipment than ever before, as well as providing enlarged quarters for its repair and service departments.

Prominent among the equipment displayed are the new Camart camera dollies. Information on the complete line of Camart Products may be had by writing the company at above address.

Compact Cine Editing Board—Ereona Camera Corp., 527 Fifth Ave., New York City, announces distribution in the U. S. of the German-made Siemens editing board for 16mm films, also the well-known Siemens film splicer.

Editing board, which features all-aluminum construction and precision machining, folds compactly when not in use, as shown below.

Combination editing board and splicer sells for $38.75. Splicer and editing board also may be purchased separately.
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CINEMATOGRAPHY
FOR TV FILMS
(Continued from Page 209)

a) That the camera work for TV films is no different from that for theatrical motion pictures.

b) That good, normal lighting, without going overboard on special effects lighting, will produce a TV film with maximum transmission qualities.

c) That extreme contrasts should be avoided, and that best results follow where the contrast is slightly softer than average studio lighting for feature films.

d) There isn't any “easy money” in TV film making at present. It's hard work for any cameraman, and there are no big salaried jobs to be had. But the field promises a tremendous future and eventually steady employment for more cameramen and assistants than ever provided by Hollywood studios.

e) No further improvement in films stocks is necessary. Present Eastman and DuPont films are capable of producing satisfactory negatives and positives for TV films.

f) There is much improvement yet to be made by many network stations in the transmission of TV films. The networks should get together as soon as possible and pool their ideas, resources and equipment toward a uniform overall top quality film transmission system. That this is possible is proved by those stations which currently are transmitting films satisfactorily.

Also emphasized in the report is the opinion that most television film producers have yet to take full advantage of the knowledge and the extensive studio experience of veteran motion picture cameramen, which, besides insuring good photography, would tend to eliminate such production problems as unnecessary footage, takes, and location sites.

It is estimated that the next six months will see most of the photographic-quality and film transmission problems solved by all Los Angeles stations.

CINEMATOGRAPHY
REVIEWS
(Continued from Page 194)

for Universal-International release. Directed by Harry Watt.

“Ivory Hunter” concerns a game warden in Africa who sets out to establish a sanctuary for the native wild life, and his experiences with troublesome natives who are under control of a white man posing as a photographer but is in reality an ivory smuggler.

The picture is chiefly interesting for the scenes of Africa and African wildlife, photographed in color, although the staging, direction and the performances of the cast are by no means secondary. But pictures having a foreign locale are enjoying wide popularity, and “Ivory Hunter” can be put down as another of such films to see if you like those beautiful African wilderness vistas, herds of wild animals and the inevitable rhino chasing the camera car.

Technically, cameraman Unsworth has done a commendable job on this picture. The color, in the print reviewed in Hollywood, lacked consistency; but this might have been a fault of the London laboratory which processed Unsworth’s footage.

Unsworth’s handling of the moving camera shots, with the camera mounted on a truck, is well done, and his treatment of the rhino pursuing the game warden and his crew fleeing in a car is a highlight of the picture.

Most of the scenes were shot in Kenya, Tanganyika, and Uganda, Africa.

BULLETIN BOARD
(Continued from Page 199)


GERALD HIRSCHFELD, A.S.C., currently is on location in Miami, Florida, where he is photographing an independent production, “The Miami Story,” starring Lili St. Cyr and directed by Joseph Lerner.

STATLER HOTEL, Washington, D.C., will be location site of S.M.P.T.E.’s 72nd semi-annual convention, which will take place next October 6th to 20th.

EDGAR BERGEN is in New York cementing plans for his forthcoming TV shows, which he insists must be on film.

GORDON ENTERPRISES, west-coast source of 10,000 and-1 items of photographic equipment, located at 5362 N. Cahuenga Ave., North Hollywood, has set up a complete new machine shop and service department for the overhaul and rebuilding of photographic equipment. Company has just been put under contract by the government’s Atomic Energy Commission to service its camera equipment. One phase of this work is the finishing in baked white enamel of all A.E.C.’s Mitchell cameras used in photographing test data in the hot climate of the White Sands proving grounds.
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Joseph Walker, A.S.C., photographs Rita Hayworth in Columbia's "Affair In Trinidad."

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- Engineered Photography For TV Films
- Camera Heater For Cold-weather Photography
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ON THE COVER
Rita's Back and Walker's got her! It was Columbia Picture's ace director of photography Joseph Walker, A.S.C., (wearing hat) who was chosen to photograph Rita Hayworth following her return to Columbia to co-star in "Affair In Trinidad." Here camera operator Victor Scheurich focuses the low-angled camera on Miss Hayworth as she performs a torrid dance routine for an important scene in the picture.—Photo by Lippman.
Years-ahead smooth, positive operation has made the famed Mitchell 35mm Cameras the overwhelming choice of major studios. Incorporating the same advanced truly professional 35mm features, the Mitchell "16" Professional Camera is being selected as the standard equipment of more and more commercial producers. The heritage of superior design and matchless workmanship of Mitchell Cameras is known and proven each day by the creators of the world’s finest films.
Hollywood Bulletin Board

A.S.C. HOSTS SCENIC ARTISTS—For the first time in Hollywood's history, perhaps, a major craft honored another creative craft of the studios last month when the American Society of Cinematographers hosted the industry's scenic artists at a banquet May 28th at the Society's clubhouse, and presented the artists with a scroll of recognition for their contributions to the motion picture industry.

Present, besides A.S.C. members, were twenty-five members of the Scenic Artists Guild, headed by president Phil Raigule.

Said Raigule, in accepting the scroll: "We are very grateful to the A.S.C. for extending its helping hand and aiding us to attain recognition in the industry. In the early days of motion pictures in Hollywood, the artists and cameramen enjoyed a memorable esprit de corps... We scenic artists will ever be grateful to the cinematographers for being the first to give public recognition to the importance of our craft."

As a token of this appreciation, president Raigule, in behalf of his fellow artists, then presented a framed watercolor to members of the A.S.C., as a token representative of their art. The painting was done by scenic artist John Coakley. Accepting the gift in behalf of the Society was Charles G. Clarke, who directed it be hung in the Board Room of the Society's clubhouse.

Toastmaster of the evening was Harry Crocker, well-known motion picture columnist and director of public relations for Charles Chaplin. Other guests of honor included Mack Sennett, who spoke briefly of his recent visit to the Film (Continued on Page 259)
Director Douglas Wilkinson and Cameraman Jean Roy are seen working in the Canadian Arctic on a production for Canada's National Film Board. Their Maurer camera operated satisfactorily on this assignment at temperatures varying from 60° F. to —50° a range of 110°!

**50° BELOW—**

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Slick is the word for William Daniels' photographic treatment of this sprightly story of Pat, a national tennis and golf champ (Katharine Hepburn) and amiable Mike (Spencer Tracy) — the driving genius who owns 50% of Pat, 100% of a fighter (Aldo Ray) and all of a race horse, and who manages Pat in her professional sports career— for a percentage of the take.

Daniels has given this production his usual accomplishment — a superior brand of photography which years ago earned him the tag of "glamour cameraman." There was no call for the glamour treatment for any of the cast in this picture, however, Daniels has gracefully toned his lighting to match the rugged "outdoorsey" atmosphere of this story of the competitive sports world.

It is his subtle use of booster lights in the exteriors that highlights Daniels' photography of scenes on the fairways and in other outdoor shots. The thing you miss is the obvious fill light from boosters so common in so many pictures today. Here, Daniels has underplayed the booster lighting; it is scarcely perceptible, yet the result is more natural appearance of the players and others appearing in outdoor scenes, such as the gallery following the golfers and the spectators watching the tennis matches.

Once or twice you will see artful use of backlighting — not too often — but enough to remind that Daniels has lost none of his glamour technique. You'll have to look close, though, to detect all this, because the laughs come quick and often, and the story grips your interest right down to the final frame.


"The Pride of St. Louis" is destined to become the pride of 20th-Fox during 1952. Starring Dan Dailey as Dizzy Dean, colorful ballplayer, it is Dailey's best starring role to date and one of the most likeable screen stories you'll see in many a moon. The picture encompasses the history of ballplayer Dean from his sandlot days to his fade-out as a popular figure of the professional ball clubs.

Brilliantly photographed in Technicolor, the story posed a wide range of camera treatment for Leo Tover whose cinematographic skill has embellished many a Fox production over the years. Lighting of the interiors shows a pleasing restraint and exhibits Tover's flair for imparting a homey atmosphere to interiors through skillful use of general set lighting without resorting to tricks or effects.

If you are a baseball fan, you'll thrill at Tover's camera coverage of action on the diamond — the best to be seen in any picture cameraman on the lot.
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"One Who Came Back"

Nominated for an Academy Award, was filmed in its entirety with an

ARRIFLEX 35

Charles ‘Scotty’ Welborne, Famous Hollywood Camera Man, with his Arriflex 35, shooting from a plane over Korea. Behind him is Owen Crump, writer and director of “One Who Came Back.”

Writes ‘Scotty’ Welborne: “... The two cameras we took with us, and used throughout the picture, were both Arriflex 35s. They are surprisingly light in weight, and allowed for complete mobility. We shot more than twenty thousand feet of film, under all kinds of conditions, and not once did we run into camera trouble of any kind. It is interesting to note that not one foot of stock film was used in the picture... everything was shot with an Arriflex.

“I found it an excellent piece of equipment. And, if I had it to do again, I would again select the Arriflex, because of its portability, ease of loading, fast changing turret, uninterrupted through-the-lens viewing and focusing while shooting, and complete dependability.”

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Engineered Photography For Television Films

Makers of "Frontier Detectives" TV film series introduce a new scientific approach to photography aimed at improving audience interest.

By LEIGH ALLEN

A long scientific study of the viewing habits of television set owners and of the factors directly affecting these viewing habits formed the basis of a new production approach in the making of films for television.

The "Frontier Detectives" video film series, now being made at General Service studios in Hollywood by Murphy-Thomas Productions and photographed by Gordon Avil, is perhaps the first ever to be planned and photographed according to scientific findings aimed at developing maximum viewer interest.

Murphy-Thomas is the first producer of TV films to have on its production staff a technical advisor on optics and photography. He is Dr. Harold R. Lutes, president of H-L Instrument Company, San Gabriel, Calif., and an engineer in ophthalmic and photographic optics.

In the early days of television, when complaints of undue eye-strain induced by watching TV threatened the future of the medium, Dr. Lutes began studies which produced a by-product observation: that motion pictures made especially for theatres are difficult to watch on the smaller screens of television sets, even when reception is sharp and clear. The mechanics of both the photography and cutting of such films, Dr. Lutes found, induced certain irregularities in both the picture continuity and in the visual flow of the picture which in turn induced distractions for those viewing the films on home receivers.

For one thing, Dr. Lutes found, many video viewers rarely were able to "lose themselves" in a televised dramatic play to the same extent they do when seeing a picture on the big screen of a movie theatre. The result, he said, is that too many TV viewers fail to get the most out of television; distractions and disorientation more easily occur when there is not complete absorption in the televised program.

Much of the fault lies with the smaller screen of television and the great difference in the viewing conditions in the home compared to the large theatre. We are less able to associate ourselves with a story as it unfolds on TV than when watching the same action more life-size and life-like on the theatre screen. With television, therefore, there is greater need to introduce into all scenes more pronounced elements of orientation, so that the viewer will not become "lost" when his attention is diverted from the picture, as it is so often in home viewing of TV.
It is here that Dr. Lutes introduces his theory of space orientation and three-dimension illusion, and explains how the proper selection of lens size and camera angle for the respective take can give the scene the most dynamic visual impact in TV film photography.

Describing his findings in an address before a number of TV film producers and technicians in Hollywood recently, Dr. Lutes demonstrated, by means of screened slides, how space orientation of objects or of a given locale or situation can be enhanced through proper selection of camera angle, lens size, proper lighting, or all three. He pointed out it was not only important to fully orient the TV viewer at the beginning of the story, but to maintain this orientation throughout the picture. He added that far too many TV films lose orientation through improper or careless cutting as well as in inadequately planned photography. Much of this orientation depends, he said, on maintaining a strong illusion of three-dimension in all scenes, yet with a normal point of view—a matter of proper composition of scenes in which the familiar compositional rule of using foreground objects is employed to create the maximum illusion of depth. In this way locale is quickly identified, and the special relationship of objects is readily apparent. The result inclines the observer to become a part of the action and live the story.

An example of this orientation principle, as applied to scene composition in the series of "Frontier Detectives" video

(Continued on Page 260)
Economy Set Lighting With Cone Lights

New type reflected light units introduced by Columbia Studio technicians cut rigging and operation costs.

THE NEWEST in a "shadowless" reflected light source for illumination of motion picture sets is the cone light developed at Columbia Studios in Hollywood by Walter Stebbins, Columbia's electrical department head, and Larry Butler, head of the studio's photographic effects department.

Having begun explorations in reflected light almost simultaneously with John Arnold, A.S.C., who subsequently developed a similar lighting unit at Metro-Goldwyn-Mayer studios,* Stebbins and Butler pursued their theories and came up with a lamp structurally different, which they claim has advantages not found in other set lighting units of similar type.

The structural difference in the Columbia light is the cone-shaped reflector. The Arnold lamp reflector is the conventional concave type. Both lamps have a metal baffle plate in front of the incandescent light globe, which prevents light rays from falling directly on the set. The baffle also intensifies direction of the light towards the reflector. The 45° cone angle of the Columbia light was determined by mathematical calculation and exhaustive tests to give a better quality of reflected light. The Stebbins-Butler theory is that the flat-surfaced conical reflector gives a much softer light having greater penetration than that of curved-surface reflectors. With the former, the light rays bounce back and forth in straight lines between the flat reflector surfaces and emerge toward the set in a highly diffused beam of light having a wide spread and incapable of casting any appreciable shadow. Hence the term "shadowless," which is employed in describing the light's peculiar illumination qualities.

"When we began our developments," said Stebbins, "we were searching for a wide-range light source that would give the cameraman a very soft, diffused light—one that could be used for general set lighting, yet would require a minimum of units, and where all that would be necessary is add a kicker and perhaps a key in order to have a set ready for

(Continued on Page 264)
The need for a small, compact automatic film processing unit for laboratory or field use has been met by the Micro Record Corporation, New York City, which this month announces a new, improved model of its portable Micro Record film processing machine. Small and light in weight, the equipment is ideal for a wide range of motion picture needs—from those of the home movie amateur who likes to process his own films, to the studio cameraman who needs a quick, efficient means for developing film tests on location. Television stations, too, are finding the equipment ideal for quick-processing of local newsreel footage. The equipment also is being used with success for processing microfilms, and X-ray films.

The compact Micro developing tank provides a simple, efficient, economical and speedy means for processing long lengths of film—100 to 200 feet—where the quantity of film does not warrant the expenditure of the several thousands of dollars required for the more highly productive installations. Movie film can be processed immediately after shooting and scenes retaken if found necessary.

The processing equipment, pictured above, requires but one gallon of solution. Tanks and protective hood over mechanism are made of newly formulated plastic material that is tough and corrosion-resistant. The material, being non-conductive, insures complete electrical insulation. The spindles that carry the reels in the solutions are of stainless steel and are mounted in precision ball bearings with sealed-in lubrication. Film reels are of tough plastic construction. The tank and hood measures approximately 13 1/2" x 8 1/8" x 10 1/4". Net weight is only 11 pounds.

The processing unit consists of the motor-driven film-moving mechanism, light trap, 3 nested tanks, 3 feet of rubber hose with faucet adapter, and one pair of reels. The motor is 110-volts, 60 cycles A.C. Other motors also are available for 220 volts or 110/220 volts.

For simple, daylight operation, the film to be processed is placed on the spindles of the tank. The light trap is then placed over the film and all processing operations are conducted in daylight. Separate tanks are provided for the various solutions, and the mechanism, with the film in motion, is transferred from tank to tank in the proper time and sequence.

The film travels back and forth on the reels in the solutions for the entire duration of the processing period. The reversal of the rotation of the reels is governed by five feet of leader and an equal length of trailer. When the reel that is being unwound is exhausted to within five feet of the end, rotation of both reels is instantaneously and automatically reversed. This action is performed smoothly and with no jerk on the film, permitting the solutions to remain between the layers of film.

There are no adjustments required for processing various lengths of film; any length up to 200 feet between the leader and the trailer can be processed in less than one hour. Where the loss of the leader or the trailer cannot be afforded, a length of scrap film, secured to each end of the film to be processed with plastic tape, can be substituted.

Continuous agitation caused by the repeated passage of the film through the solutions assures brilliant and uniform images.

Washing the film is accomplished in the tank provided with a hose. This may be attached to any water faucet to supply a continuous circulation of fresh water. Film, other than reversal, requires no attention from the operator until after the final washing, when it is removed from the tank and placed on a drying rack. The method is clean and requires no especial skill; daylight operation eliminates the possibility of error often experienced in darkroom procedures. Where reversal film is to be processed, the use of a transparent tank (optional equipment) is required.

(Continued on Page 268)
Camera Heater For Cold-weather Filming

Small, battery-operated unit is adaptable to almost every make of studio camera.

By RALPH LAWTON

Although most of the studio motion picture cameras in use today represent the ultimate in precision engineering and utility, the matter of cold weather operation generally seems to have been overlooked by camera manufacturers. The result is that when studio cameras are taken on location in winter months or used at night when temperatures are low, trouble is encountered with the mechanism slowing down due to the effect low temperatures have on the lubricants.

Unless cameras used on such assignments are treated with special lubricants in a so-called “winterizing” process, invariably they will give trouble in cold weather. Studio cameramen have had to deal with this problem ever since the beginning of feature film making, and interesting are the numerous expedients that have been tried in an effort to keep cameras running at normal speed in below-freezing temperatures. Small 110-volt light bulbs, with the surface opaqued, have been mounted inside the camera as heating elements; oil heaters have been placed beneath the tripod-mounted camera covered with a quilted hood, as shown in the photo above; and other, more or less ingenious expedients have been tried—all without much success.

Only recently has a satisfactory, trouble-proof camera heating device been developed. It may easily be adapted to almost any type and make of studio motion picture camera, including Technicolor cameras. Its development came about during preparations to shoot MGM’s production, “The Wild North,” in Sun Valley, Idaho, during winter. John Arnold, A.S.C., MGM's executive

(Continued on Page 268)

VIEW of Mitchell camera interior showing heater unit and thermostat installed. Dual unit A has heater element at B, which heats shaft E, and another at C, which heats shaft D. Adjustable thermostat is shown at F.
THE WIDESPREAD industry interest generated by Technicolor Corporation's recent development of a more sensitive negative film combination intended for use with light of 3350 K. color quality, suggests another look-see into the technical aspects of carbon arc as contrasted with incandescent ("inkie") lighting for motion picture sets.

Studio light sources have a direct relation to theatre projection in terms of the old adage: "If picture quality isn't on the film, one can't put it on the screen."

Basis for this discussion are the arc and incandescent spotlamp comparisons shown in Fig. 1. The optical system used with carbon arcs is shown in Fig. 2. The incandescent lamp optical system differs only in the addition of a spherical mirror positioned behind the light source to gather otherwise lost radiation and direct it back through the source and into the useful beam.

The carbon arc optical system affords a wide range of beam spreads from 10-13° at a minimum spot to 44-48° at full flood. Total lumens in the beam at various beam spreads are shown in Fig. 1. At full flood the closer spacing of the lens from the light source gives a greater pickup of light than at minimum spot.

At a single beam spread, the light intensity varies approximately as the inverse square of the distance from the lamp. It is thus possible to assign for each beam spread an apparent candlepower value which can be divided by the square of the distance to obtain the apparent candlepower per square foot. This value divided by the square of the distance from the beam is the apparent candlepower per cubic foot which is the apparent candlepower per square foot divided by the distance cubed. This value is taken as the visual photometric power value.

**FIG. 1—Characteristics of carbon arc and incandescent tungsten studio lamps.**

**Carbon Arcs For Motion Picture Set Lighting**

Small in size, high in brightness, arcs are superior in penetration, area coverage, and shadow sharpness—ideal for color photography.

By HENRY B. SELLWOOD

Editor, International Projectionist
Assignment In India

Climate and lack of experienced technicians handicap U. S. cameramen working in India, says Ernest Haller, who recently filmed "Monsoon" and "Jhansi-Ki-Rani" there in Technicolor.

By FREDERICK FOSTER

INDEA vies with Africa as the No. 1 locale for "off the beaten track" motion pictures in the growing trend among Hollywood producers for making more and more feature films in foreign countries. At least three American companies have filmed pictures there during the past several months, bringing India into sharper focus as a land of unlimited picture-making potential. This means that if the trend continues, more and more Hollywood directors of photography may expect assignments there. Both Clyde DeVinna, A.S.C., and Guy Roe, A.S.C., are presently shooting in India, and Ernest Haller, A.S.C., returned from an eight-months' assignment there the first of May.

What are the American cameraman's problems in India? In a word they are many, according to Haller, who last month wound up the Technicolor photography of "Monsoon" and "Jhansi-Ki-Rani," produced in India by The Film Group, headed by Forrest Judd. Haller was hospitalized in Bombay with pneumonia and dysentery, lost 15 pounds during his eight months' stay.

"First of all, the American cameraman going to India should be in excellent health, and be prepared to protect it during his stay there," said Haller. "Both the climate and the food are pretty rugged by American standards, and it takes a strong constitution to buck them."

"I mention health first," said Haller, "for without good health you simply cannot carry on efficiently with your assignment. If you don't feel well, you can't do your job in the hot, sultry climate that prevails the year 'round."

"Then there are the many problems relating directly to production. Chief of these are lack of good native equipment and the limited number of experienced technical help having the know-how the Hollywood cameraman has come to depend upon. Because of the beastly humid climate, it takes about four times as long to get things done as when shooting in Hollywood. The natives move slowly no matter how urgent the order. And then there are the workers' tea periods—several times a day—similar to the 'coffee breaks' of the American worker."

Although Haller's head electrician was a native with many years experience in Bombay studios, it became necessary to re-educate him in the ways of the western movie electrician. In fact, Haller had to give special training to the entire native crew which was assigned to him. On his camera crew were two well-known Indian directors of photography, each with 25 years experience in Indian motion picture studios. These men eagerly sought posts as Haller's assistants in order to learn Hollywood methods, and especially to work with a Technicolor camera—a rare opportunity for them. His immediate assistants were supplied by Technicolor's Fondon laboratories. The sound crew also came from England. Recording was done with a magnetic tape recorder and the sound later re-recorded optically on film.

Except for the native equipment used, all else was supplied from London. No equipment was shipped from Hollywood. For lighting, Haller had twelve 170's, four 90's and one "Brute," plus some miscellaneous inkie equipment. For shooting "Monsoon," the first production, no motor generator was available for supplying lighting current. The company was obliged to tap the city's power lines. Haller burned his arc lamps in series, working off a rectifier. Thus, when one light fell off in brilliance, they all did. "Fortunately," said Haller, "by the time we were ready

(Continued on Page 260)
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The Facts of Light

Some common errors in interior lighting and how the amateur movie maker can avoid them.

By LEO J. HEFFERNAN

Previous discussions in this series of articles on lighting have established a basic system of using four light units for filming average interiors for 8mm and 16mm movies. Readers may recall that the lights were given names—“fill,” “key,” etc.—depending upon the general position of the light on the set. Keeping these terms in mind as you work is the first step in the orderly procedure of lighting home interiors. However, it often happens that after everything has been done according to our established “basic system,” a trained eye is likely to discover errors of one sort or another—errors that disturb the harmonious light balance. It is these errors, and means of correcting them, that we consider now:

Briefly, the “key light” is the main front light which provides the strongest illumination on foreground objects and thereby sets the mood. This light projects shadows which must be subdued or eliminated by the “fill light” placed on that side of the camera which is away from the key light, yet close to the lens. The “back light” usually is placed high and opposite the key also, but behind the foreground subject so that it throws light upon the extreme side or top of subject, thus providing separation from the background. The “background light” illuminates the background independently of the rest of the set; the main “front lights” usually cannot do this adequately because of the added distance which must be covered.

In order to visualize all this for the reader as clearly as possible, a typical lighting setup has been photographed and is illustrated at top of page. In Figs. 1 and 2, it will be seen that the pattern of lighting followed here is for a normally lit room, and that the effect accomplished is that of making the lighting appear to come from the regular room lights, viz: overhead fixtures plus the table lamp which appears in the scene. Here we have an apparently simple lighting set-up, yet one which presents complications for the inexperienced amateur filmer unless he fully understands how to use his photo lamps. Incorrect placement of lamps will cause one or more pictorial defects which are described below, along with suggestions for the remedy of each:

Multiple shadows: When photo lamps are placed close to background walls...
and objects in the scene, they will cast objectionable shadows. If strong lights are used low and alongside the camera, strong shadows of the players within the scene will be cast upon the room wall or background. (Fig. 3.) If a room lamp appears in the scene, its shadow also will be cast upon the wall, destroying any attempted illusion that the scene is lit by the natural room lights. (Ordinarily, a room light will cast a highlight upon the wall.)

Such difficulties arise when foreground objects are too close to the background. By moving furniture, lamps, etc., forward toward the camera and away from the background — shadows will then fall on the floor behind them and become unnoticeable on the screen. Your subjects may then be lighted so they will appear illuminated by room lamps instead of photo lamps outside camera range. A spotlight or floodlamp directed upon background walls or objects will introduce a pleasing highlight in the scene which might conceivably come from an overhead room fixture. Good will be the tell-tale shadows of ill-placed photo lamps, and your players may now move about the set with reasonable freedom.

Overlit Foreground Objects: When this occurs, faces and objects in the immediate foreground are “burned out” from illumination that is out of ratio with the background. Although your front photo lamps may be correctly placed, there may be little if any light on the background. This sort of lighting often prevails when “clamp-on” lighting fixtures are used attached to chair backs, etc., with the illumination directed upon the player or subject alone, and with all the resultant strong background shadows, etc. Because of the great range between the light on foreground subjects and the background, the faces are usually unpleasantly “hot” or burned out, even when proper exposure is thought to have been established.

Such inexpert lighting is usually the trademark of amateur cine filmers who have not acquired a sufficient number of good photo lamps and reflectors. For those who are properly equipped, it is then but a simple matter to correct the errors described above. The number one step is to pour more light on the background (walls), meanwhile keeping track of the ratio by means of an exposure meter. In some instances, it may be desirable to subdue the lighting of the background by reducing it, say, by one-half as much as the light falling on subjects in the foreground.

If I appear to take a disparaging view of “clamp-on” photo lamps, it is only because I have observed they tend to induce slip-shod lighting methods. Clamp-on units, properly used, provide efficient light for indoor cine filming; but they should be attached to standards that will provide the right height for the lamp as well as a slip-proof grip so the lamp won’t shift suddenly during filming.

I have seen clamp-on units used effectually when attached to chair backs, when the chairs were placed high on a table; but more dependable and efficient are the more professional-like standard floodlight and spot light units mounted on sturdy collapsible standards.

Keylight Too High: In filming interiors, first consideration should be given to lighting your subjects, because usually when the light is right for them, it will be pleasing throughout the scene. At least, this is the criterion by which lighting is judged. Thus, the cameraman should keep a critical eye on his subject-lighting at all times.

Here position of the key-light becomes all-important, and it is recommended that it be placed so as to provide 45° lighting, i.e., 45° to the right or left of foreground center, and at a brightness that will cause the light to fall on the foreground at an angle of 45°.

It should be noted that there can be no rigid rule to follow in placing any set lights, because so much depends upon position of the subject or subjects. During rehearsals the light and shade patterns on subject’s face should be studied to determine whether or not shadows from the brow cause the eyes to be underlit, or the shadow from the nose crosses the line of the lips. These are serious lighting errors, as are shadows caused by the lower lip. The remedy is obvious: simply lower the key light until the change in illumination angle minimize or totally eliminates these errors.

Strong Back Lighting: The temptation to pour backlighting upon the head (Continued on Page 266)
LEON Paddock wasn’t satisfied just to dive beneath tropical waters to study marine life; he wanted others to see the odd and colorful underwater creatures and the drama of their little-known activities deep in the Pacific off the West Coast of Mexico. So he took this cine camera with him on his diving jaunts and photographed in 16mm Kodachrome some highly dramatic footage, which later became “Spear That Fish!” — acclaimed one of the Top Ten pictures in American Cinematographer’s 1952 Motion Picture Competition. Here Mr. Paddock describes his hobby of “skin-diving” and tells how he filmed his remarkable picture.—Editor.

Hey—you want to go skin-diving? Come on! Use these fins and this mask and let’s go . . . I’ll shoot some movies of you around those rocks over there . . . it’s OK, there are no dangerous monsters there . . . no, no octopus, no sharks . . . just a wonderful marine garden with all its lovely colors and growing things, and the strange, tiny creatures and the curious fish that never have seen a human before.

. . . so, we don our gear and prepare to slip into the water, into a new adventure. My new-found friend will find, as we go beneath the sea, a gorgeous, completely captivating world, and I will find new variations in the color, the life, the mystery and quietness, and in the lure of the underwater world that I have come to love.

Skin-diving as a sport is catching on by leaps and bounds, and other skin-divers also are working on underwater camera equipment, because they, too, have been captured in a web of wonder, and want to record on movie film some of the fascination of the shallow-water world. This, then, is what I tried to show in my picture, “Spear That Fish!” — a new, thrilling sport in a fascinating, colorful wonder-world where the thrill of discovery and danger is everywhere; to show a man swimming, learning to observe, to control his body and breathing, to go with the sea and use it for his purpose — not to be afraid of it and battle against it and become worn out, and perhaps even be claimed by it. I sought to show the exertion and the power of the skin-diver as he cruises along the very bottom of the sea in a lovely garden where fishes hide in the dark recesses of the rocks; to show the marine life there — the lobsters, eels, rays and other things a little more fearsome; and to show the fantastic coral with its unbelievable color patterns, and the plankton, the worms and the snails. Life is more abundant in the sea than anywhere on land.

Getting such underwater scenes on color film became my chief ambition from the first day I tried skin-diving. But first there were many tests and trials to be made with breathers, regulators, and air bottles. A specially designed underwater camera blimp, or “box” as we call it, was built for my 16mm Bolex. Such design factors as perfect water displacement and parallax correction were considered in its construction, as also were such important features as geared iris and focus controls externally operated, mirrors to facilitate

(Continued on Page 362)
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TO MAKE three-dimensional sound movies, the first step is to equip the Bolex H-16 camera with the new Kern-Paillard stereo lens and viewfinder. Single-perforated sound film should be used in the camera.

HOMEmOVIE MAKERS can out-Hollywood Hollywood by adding sound, color and three dimensions to their family movies, according to Paillard, Swiss movie camera manufacturers.

Using Kern-Paillard Stereo lenses, which give a three-dimensional picture by the Polaroid system of splitting light in two ways to give a three-way illusion, the amateur can add a third dimension to his home movies.

When the Stereo projector lens is used with Bell & Howell Company's new Filmosound 202 16mm magnetic recording projector, three dimensional color movies with a magnetic sound track can be produced at home.

Although three dimensional silent movies are not new (they were first exhibited at the New York World's Fair in 1939), experts describe this new method as the first practical system of making Stereo sound movies for the amateur.

At present the Kern-Paillard Stereo taking lenses are being manufactured only for the Bolex 16mm camera. Using single perforated (sound) film in black and white or color, the photographer who wants to make sound, three dimensional movies uses the Bolex camera equipped with a Stereo lens.

After having his movies processed, the next step is to edit the film and send it to Bell & Howell Company to have a magnetic "Soundstripe" added to the edge. The film is then ready for recording the sound track on the Filmosound 202 magnetic recording projector.

Recording is done by speaking into the microphone as the picture is projected on the screen. Voice and musical background may be added at the same time, and the track may be erased and re-recorded as often as desired. There is

AFTER the film has been processed, edited and "Soundstriped," recording is done on a Bell & Howell 16mm recording projector. When a stereo lens is used on the projector the sound film appears in three-dimensions on the screen when viewed through Polaroid spectacles.
a special interlock system to prevent accidental erasure. As soon as the sound track has been recorded, it is ready for immediate playback.

It is only necessary to place a Kern-Paillard Stereo projection lens on the Filmsound 202 to project three-dimensional, sound movies. Polaroid glasses are used to view the pictures.

The Bolex Stereo system of taking and projecting lenses, including special screen and accessories, retail at $397.50; the Bolex Stereo equipment, complete with 16mm camera, for $715.50. The projection lenses may be adapted to any movie projector.

BULLETIN BOARD
(Continued from Page 238)

Festival in Cannes, France; also motion picture director Henry King.

King paid great tribute to the industry's directors of photography, citing their contributions from the very earliest days of Hollywood's motion picture history. Said King: "The cameramen no longer are merely the cornerstone of this industry—they are the whole foundation."

Adding a chic feminine touch to the gathering were two of Hollywood's most promising movie starlets—Cleo Moore and Marie Windsor. Both the local and national motion picture press were also represented, with most of the leading writers and reporters on hand to report on the affair.

MARCEL ANDRE LePICARD, pioneer Hollywood director of photography, died May 25th at the age of 65. Born in France, LePicard began his career as a Hollywood cameraman in 1913. He photographed such old-time favorites as Dorothy and Lillian Gish, Wally Reid, Milton Sills and at one time photographed all pictures in which Will Rogers starred. Later he was Madge Kennedy's favorite cameraman. During the past several years he was associated with Monogram Pictures as one of that studio's top directors of photography. He became a member of the A.S.C. in August, 1935.

Surviving him are his widow, Ethel, and a daughter.

JOHN W. BOYLE, A.S.C., and HAL MOHR, A.S.C., were re-elected last month to represent the cinematographers on the Board of Governors of the Academy of Motion Pictures Art and Sciences. Charles Brackett was unanimously re-elected president of the Academy.

KOHEI SUJIYAMA, Japanese cameraman, won the only photography award at the 1952 Film Festival at Cannes last month, for "Tale Of Gengi.

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to start shooting 'Jhansi,' we had acquired a big Diesel-powered generator which greatly eased our lighting problems."

In addition to the electrical equipment, some of which was used regularly out of doors for booster lighting, the company had access to a number of native-made reflectors. These were of poor quality. As yet, Indian cameramen have not learned to use gauzes and consequently there were none available when exterior shooting called for this equipment. Gauzes, therefore, had to be specially made for the company's use.

The production of both pictures centered in the Minerva Movietone studios in Bombay — one of the more than 20 studios located in that city alone. Although Minerva adequately serves native Indian film producers, it is a far cry from the studios we know in Hollywood; we nevertheless adapted it to our needs with little difficulty," said Haller. "Fortunately, most of the shooting on both pictures was out of doors — exteriors for 'Monsoon' running about 40 percent, and for 'Jhansi' about 60 percent."

Both pictures were shot on Technicolor 3-strip stock, except for some scenes that required coverage by additional cameras. In these instances, Mitchell or DeBrie cameras were employed, using Technicolor Monopack film. With the regular Technicolor film, both the fast and slow stocks were used — the latter for all exteriors, and the fast stock for interiors. This was used — the latter for all exteriors, and Mitchell or DeBrie cameras were employed, using Technicolor Monopack film. With the regular Technicolor film, both the fast and slow stocks were used — the latter for all exteriors, and the fast stock for interiors. This was shot at 200-CP level at f/2, using inkie beam-splitters and arc technique development for the film.

Production of the pictures marks the first time that Technicolor camera equipment has been used in India for such a lengthy period. Climatic conditions played hob both with the camera lenses and optical equipment. Nevertheless, the experience proved of immense value to Technicolor, and should lead to improvements which will prevent recurrence of these difficulties on future assignments in the Far East.

Technicolor also provided one of its mobile 4-wheel camera mounts which Haller used for numerous tracking and dolly shots. Here the company ran into difficulty in providing smooth tracks for the dolly to move upon. The slick dural tracks which are commonly used in Hollywood studios are unknown in India, so the next best thing available was a couple of old, rusty steel rails.

The two pictures were a joint enterprise between Hollywood and Indian producers. So well did the production setup work out that it has set the pattern for future collaboration between Indian and American film makers. Whereas only a few years ago Indian film producers shied away from any cooperative deals with foreign film makers, fearing the encroachment of the foreigner into the Indian movie industry, the intelligent Indian producer now sees increased profit and greater opportunity for him in two-way deals with American film producers with know-how, adequate finances, and above all — the equipment so necessary to efficient and profitable film production.

Both "Monsoon" and "Jhansi" were made in two versions — English and Indian. Thus the Indians, who long have wished to be able to make pictures in color, now have their first two productions in Technicolor. These have given tremendous impetus to the Indian plans for producing color films and have resulted in color motion starting on three independent color labs there. The first, nearing completion, is being built at the Central Studio in Bombay. Here both Eastman negative-positive color films and Anseco Color will be processed for local motion picture companies — all of whom eagerly await the opportunity to use color film for the first time.

Although other Technicolor pictures have been filmed in India — among the more notable, "The River" — "Jhansiki-Rani" marks the first all-Indian Technicolor motion picture made there.

The long distance between Bombay and London naturally made difficult the matter of securing dailies for checking color quality, etc. Nevertheless, dailies were supplied at intervals by air-freight on the most important action. These were mostly in black-and-white," said Haller, "with prints of one or two shots out of each sequence being supplied in color." Such economy measures baffled the Indian custom officials who couldn't understand why the company shipped out 20,000 feet of film and got back only around 5,000 feet.

Ernest Haller, one of the industry's outstanding directors of photography, won an Academy award for his work on "Gone With the Wind." A native of Los Angeles, Haller attended school there and his hobby was photography. After a spell as a draftsman in an architect's office, he became an actor in pictures and later became an assistant cameraman, working with such old-time producing firms as American Biograph and Kalem.

Advancing to a full-fledged cameraman, Haller photographed many silent pictures, including such famed serials as "Hazards of Helen" and "Stingaree." Then, in the sound era, he filmed many of Hollywood's most important productions, including pictures for Warner Bros., where he was under term contract from 1925 to 1951, when he decided to go to London to assist in the editing of "Jhansi." After that, he plans to return to India to photograph another feature picture — in Technicolor, of course.
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and viewpoint that certain lenses afford, are all carefully considered and the correct procedure outlined in the script as a guide to the cameraman.

Dr. Lutes, through long experience both as photographer and optical engineer, knows without referring to handbook charts the angle covered by a given lens as well as the perspective it will render. Thus it is possible for him to pre-plan the camera setup for each scene on the basis of what lenses of different focal lengths can do to give a scene the maximum pictorial and dramatic impact, and at the same time retain its relationship with preceding scenes and those that follow.

When the company goes on the set, much of the camera work has been pre-engineered in cooperation with the cameraman. This pre-planning takes nothing away from the latter and does not lessen his responsibilities in any way. What it does is put into the cameraman's hands a definite shooting plan which allows him to give greater attention to pictorial lighting and photographic direction. The result is that photography is greatly speeded up and a larger number of takes are completed within a shooting day with greater cooperation between crew, director and producer.

Roscoe E. Thomas, co-producer of the series, also is the scriptwriter, and has...
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offered for easy balance and control of the
camera. The camera blimp. A water-tight plastic box
completes the outfit. The latter item is
needed to contain the Weston meter, and a cork
in a non-cruising camera.

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shop facilities for experimental work,
model and production runs.

INQUIRIES INVITED

CAMERA UNDERSEA

(Continued from Page 256)

worked closely with Dr. Lutes for many
months in order to integrate these prin-
ciples of proper visual presentation into
his scripts. This has not only resulted in
a considerable saving of production
time, but has enabled Thomas to in-
corporate many new special effects
which will be used more and more to ex-
and expand this new technique of movie
making for television.

In his extensive work with stereo
photography, Dr. Lutes has found that
a measure of three-dimensional illus-
ion can be introduced in motion picture
photography without the aid of dual
cameras, twin lenses or use of Polaroid
viewing spectacles, by discreet use of
known techniques of photography.

According to Dr. Lutes, every TV film
should have strong orientation clues in-
duced by proper sequential arrange-
ment of shots, camera angles, lens con-
trol or perspective and depth, etc. He
believes that the choice of lens to be
used for a given shot should be made
on the basis of its ability to enhance per-
spective and viewpoint, rather than to
render a larger or smaller image on the
screen. He further holds that it is vitally
important to keep to a minimum all
camera movement, such as panning,
dollying, etc., except where it enhances
the depth effect, in order to avoid sudden
visual shock that tends to disorient the
viewer’s perception.

This new aspect of photography for
video films, says Dr. Lutes, can greatly
increase the satisfaction which the viewer gets from TV films on his home
receiver. If good photography, carefully
planned and executed, tends to make a
TV film more enjoyable, the popularity
of that program increases and so does its Nielsen rating. And that’s what
sponsors want.

In addition to the above develop-
ments, the matter of contrast in both the
negative and print is carefully consider-
ed and controlled in all stages of produc-
tion from lighting and photography to
processing of the films.

Title techniques also are being studied
for improvement of lettering style and
size, text line length, and the contrast
relationship with the backgrounds—all aimed at making TV film titles more readable
on all types of receivers.

The company’s program has a long-
range plan with many novel approaches,
which will offer greater possibilities for
cameramen to better express their
abilities in the medium of TV film
production.

In colored areas, and follow shots of
the exploring divers are done in depths
of from 15 to 25 feet, using
a non-cruising camera.

Cruising scenes of the tiny creatures
in colorful areas, and follow shots of
the exploring divers are done in depths
of from 6 to 10 feet. We found that a
certain amount of movement adds to
the realism and impact, and helps sus-
tain interest; by virtue of being imper-
fect, the effect of spontaneous action is
greater.

The staggered pistol-grip handles af-
fords easy balance and control of the
camera blimp. A water-tight plastic box
to contain the Weston meter, and a cork
float on a 12-foot cadmium-plated chain
completes the outfit. The latter item is
attached to the camera blimp so that
when scenes are staged in a chosen area,
it is unnecessary to bring the camera
to the surface each time I swim up to
give directions. Instead, it can be left on the ocean floor where it is being used, and the float riding on the surface shows where the camera is located.

The value of such a gadget was brought sharply to our attention following an experience we had when we attempted to stage a special scene under water. We had located an old anchor on the ocean floor, covered with Alcyonarian coral. We contrived a scene of a diver discovering the anchor and then finding a pearl bed nearby. I set the camera on the floor in plain sight, and then proceeded to decorate the “set” with pearl oysters. Up, down, back to the boat, back down to the bottom again we went. Soon the water was so churned up there was a virtual cloud of “dust” kicked up which spread quickly through the water, obscuring the camera from view. In an effort to locate it, it was necessary to spend a lot of valuable time and to use much of my precious air supply in covering the area foot by foot. Eventually, of course, the camera was found. Now that we have the chain and float, we no longer encounter this trouble.

The scene of our filming was the off-shore waters of Morro Colorado in Sonora, Mexico. Our party traveled there from Los Angeles in a war surplus panel truck, which had been equipped with a welding outfit for making repairs, a grinding wheel for sharpening our fishing spears, a Servel refrigerator which operated on Butane gas, a 11-foot plastic boat, and an outboard motor. Among other important items of equipment were eleven bottles of compressed air for use with the Aqua-Lung. This later proved barely enough for shooting 2500 feet of underwater scenes.

The color to be found beneath the sea is the lure which beckons so many to the wonderful adventure of skin-diving. Hunting for abalone, spearing fish, and catching lobsters by hand all are part of the early experience and training, and a thrilling way to get exercise and at the same time bring meat to the table. But the real loveliness of the marine gardens and the wonderful feeling of becoming master of your body in the water comes with learning to cruise about beneath the sea in an element completely alien—to swim there like the fish and to see the abundance of living things that apparently have forgotten about evolution; to cruise past the glowing jewels of phosphorus and the multi-colored plants and coral.

But to cruise here with a movie camera and capture all this in realism and truth is the greatest thrill of all; and besides the experience, there is the film with all the wonders recorded in color to be screened again and again!

The riot of color we found in the
maritime gardens was breath-taking, and we made it the outstanding feature of our film. Trying to capture this color with fidelity, and the exposure problems created by the slower speed of Kodachrome film proved two of the toughest technical obstacles. The terrific red absorption of salt water demanded the use of filters which further reduced the effective speed of the film. It was because the water at Morro Colorado is unusually clear and the atmosphere remarkably free of haze that we traveled the great distance to this spot, which is the Mecca of the hardest of the skin-diving fraternity. Here strong, brilliant light penetrates the water to great depth, providing sufficient light at 25 feet to permit exposures at 1/2 on Kodachrome at sound speed.

When cruising with the camera along the ocean floor in predominantly dark areas, it was sometimes necessary to change the lens aperture to 1/1.5. Similarly, when passing from dark areas into one where a great deal of white coral prevailed, or when coming up toward the surface, it was necessary to reduce the aperture to anywhere from 1/3.5 to 1/8. Red absorption varies with different depths and requires use of different correction filters having different values.

Magnification of objects in sea water is three to one, requiring a whole new standard of focusing. This magnification is apparent to the eye, and causes some startling effects as, for instance, when cruising along the bottom and rounding a rock, the face of a giant sea spider is seen.

A general rule for focusing a camera lens under water is to subtract one-third of the actual distance. After some practice, the distance can be judged fairly accurately. I misjudged distance when shooting the scene of the leg-power strokes of the diver, in which only the diver's legs and swim fins appear. The diver started broadside and went straight on ahead, with the camera following in his wake. The combination of bad focus, air bubbles and near-surface light made those bubbles flowing past the camera dance and sparkle eerily. My error in judgment, in this case, actually resulted in an impressive scene.

The gulf waters are considered a paradise both for skin-divers and undersea movie makers. Here there is an abundance of every kind of sea denizen: lobsters, rock scollops, sunburst starfish, and sea slugs. We speared mulatto, cabrilla, grouper, and captured octopus and a giant green turtle—all of which was recorded with the movie camera. The octopus is a good actor, and furnished a great deal of drama for our movies. It hates humans, always runs away, and squirts an inky fluid or changes color in order to conceal itself from its enemies. The big gulf groupers hide in the dark caverns where there rarely is enough light for photography.

The rugged lava crevices and the potholes eroded by the ceaseless motion of the water through eons of time; the colorful marine gardens and semi-tropical fish; the lure of adventure culminating in diving into a strange new cove; and then the quiet satisfaction of nights under the stars in a remote place—all this made the adventure worthwhile.

The doing of the job and the pleasure of accomplishment were the driving factors. The film we have as a permanent record of these adventures is our big reward.

CONE LIGHTS
(Continued from Page 248)

shooting. In other words, our aim was to simplify set lighting, especially for low-budget productions, so that all the equipment needed on the floor during shooting would be two additional lamps and the camera.

The cone lights are not converted incandescents but are entirely new units manufactured on the Columbia lot. As may be seen in the accompanying photos, general construction consists of a cone-shaped reflector having a wide rim or band at the front. At the rear of the cone are two vertical rows of ventilator holes. A ventilated sheet metal baffle mounted over the rows of holes intercepts leak light.

The Columbia cone lights are being turned out in three sizes: 24-inch diameter with a 2-K globe; 36-inch, with a 5-K globe; and a giant 60-inch unit which takes either one 10-K globe or two fives. Total units now in use number forty-eight 5-K's, twenty-four 2-K's, and six of the 60-inch giants. Soon to go into production are a number of 750-watt cone lights for use in medium and closeup shots.

The 2, 5-, and 10-K globes are mounted base down in the lights, well forward of the conical reflector and behind a corrugated circular baffle plate that entirely shields the globe from the front. In mounting the globes, they are turned 90° so the filament faces the sides of the lamphouse instead of front and back, with other studio lights. It was found that light output of the
cone lights was increased considerable following this method of mounting the globes, due to the increased radiation of light resulting from the greater area of the deep conical reflector surface. Maximum reflectivity is obtained by finishing the lamphouse interior with a special flat white paint, selected for its ability to withstand the heat of prolonged lamp use without discoloring or blistering.

Columbia is now using the cone lights on all its productions. The lights have readily been accepted by the studio's directors of photography, although not all use them in the same manner. Although the cone lights may be used both overhead and on the floor, each cinematographer has adapted them to his own peculiar style of photography. For low-budget "B" productions, five or six cone lights are used overhead on the average set, with perhaps two more on the floor. Studio cameramen have used the lights with marked success in shooting night interiors and as booster lights for exterior day shots. In short, the new light meets just about every set lighting requirement except for effects lighting, sharply defined shadows, highlighting, etc.

The cone lights have proved ideal for lighting exterior sets built indoors on the sound stage. They produce illumination approximating daylight—a shadowless light that virtually bends around trees and shrubs, etc., imparting a most natural aspect of daytime. So great is the quality of diffusion, Stebbins said, that a person can walk in front of a cone light without casting any appreciable shadow on the set.

Although development of the cone light at Columbia was essentially an economy move, the units later proved the most ideal light source for the vast sets used in "The 5000 Fingers of Dr. T.", which Frank Planer, A.S.C., recently photographed in Technicolor for Stanley Kramer at Columbia.

Planer was attracted by the lights while casually watching another picture being filmed on a Columbia sound stage. He investigated them, studied footage shot with the lights, and decided he wanted cone lights for illuminating all sets for "5000 Fingers." The studio gave him every available unit for this production—the studio's most lavish for 1952, incidentally.

The manner in which some of the cone lights were used on the giant piano keyboard set is shown in the lower photo on page 248. Here the lights may be seen used in clusters overhead and also on the floor in combination with other conventional set lighting units. This set, incidentally, occupied the entire floor area of two adjoining sound stages, and required every available cone light for illumination. (Continued on next page)
"In using cone lights on sets for '5000 Fingers,'" said co-developer Larry Butler, "Frank Planer advanced our set lighting program at least a year. It was the first time the lights ever were used for Technicolor photography and the first time they were used on really large sets." It was the encouraging use given the lights by Planer which led the studio to build the large 60-inch units, Butler said.

As may be seen in the photo previously referred to, use of cone lights makes it possible to keep the floor before the set relatively free of cables, gobos, etc. Actually, the need for gobos, diffusers, etc., is all but eliminated.

Columbia engineers are encouraging other Hollywood studios to adopt cone lights, believing they eventually will develop into the most important industry-wide set lighting equipment. The continuing trend among Hollywood studios for greater production economy, it was pointed out, inevitably will speed up use of reflected lighting throughout the industry. Both Stebbins and Butler said that whenever it is used, the number of set lighting units can be materially decreased with resulting substantial savings in both crew and rigging costs.

"The savings made on one production alone here at Columbia," said Stebbins, "more than paid for the manufacturing costs of all cone lights we have made to date."

THE FACTS OF LIGHT

(Continued from Page 255)

and shoulders of an actor in order to create an "arty" effect of backlighting is a dominant fault of the lighting tyro. Rim lighting that is too strong will only prove distracting. It should be kept in mind that the real purpose of backlighting is to provide separation between subjects and establish different "planes" in the scene. Through its direct use, foreground players and objects are made to stand out from the background — giving the scene dimension and depth. It is therefore advisable to use just enough backlighting to provide pleasing roundness and modeling — judging the quality with a practiced eye while all set lamps are lit.

Lights Too Close: The term "harsh lighting" often is tossed around freely, but few, if any, amateur filmers under-stand what exactly causes light to be harsh. A so-called point light — i.e., a light source having small diameter beam — will produce a hard, contrasty light whereas a light source of large area will highlight a subject more pleasantly. That is why a photoflood bulb in a large dishpan-type reflector will render the best quality illumination for the key light.

There is another factor that must be taken into consideration, too. When set lights are very close to the subject, illumination falls away very sharply. Subjects close to the lights will be brightly lit, while objects farther away will receive only a fraction of the illumination. In other words, the depth of field of the required light strength is quite shallow when used close, creating harsh lighting. There is a great improvement in the relative depth of field of the required light strength, when lights are placed farther away.

Now, this simply means that either the lights must be sufficiently powerful to permit using them at a comfortable distance, or a lens of greater light-gathering power must be used on the camera, permitting use of a wider stop for the decreased illumination that follows placing the available lights farther away. The cameraman must continually strike a balance between the illumination level and the lighting effect.

Unwanted Shadows and Highlights in Cross-lighting: It is difficult to imagine any lighting set-up for motion pictures that did not incorporate cross-lighting of some sort. Cross-lighting is accomplished by providing 45° lighting at each side of the camera, without fill light, as in typical lighting set-ups used by child portraitists. In shooting movies, the key light and the fill light — each being set up on opposite sides of the camera — can, when properly set, produce pleasing cross-lighting. Cross-lighting gives dimension to the scene, providing a measure of separation.

After the basic lights have been "roughed in" — that is, set up in their probably positions — the cameraman should study the faces of his subjects to make certain there are no "butterflies." These are dual shadows which appear on the face when the lights at either side of the player are of the same intensity. The effect is illustrated in Fig. 5 and shown corrected in Fig. 6. Correction of this fault may be achieved by changing the lighting ratio to say, 3 or 4 to 1. However, there are several other ways of eliminating the fault also. The key light may be intensified, or the fill light subdued; or the fill light can be placed closer to the camera. Whatever the remedy, the one to choose is that which renders the best result visually.

Another problem which frequently presents itself is when some of the backlight spills over onto the player's face. Here much depends upon the contours of the face, for often such lighting will enhance rather than detract from the pictorial effect, as illustrated in Figs. 7 and 8. A thin face or a small nose may
be embellished by marginal highlights; but in most cases light spilling over onto the face is undesirable if concentrated. For relief, the light should be placed farther back or turned to one side so that only the edge light is used. Further correction may be obtained by having subject move his or her head to the right or to the left until the right effect is obtained.

Lighting Unsuitable To The Scene: The gravest error which a light-happy cine filmer can commit is to shoot a scene calling for special effect lighting without regard for the special requirements of the script.

Much careful planning is required to work out suitable effect lighting for such scenes as a group of people before an open fireplace, of a mother singing a child to sleep in a dimly lit room, or perhaps of hubby sneaking in late at night, shoes in hand, or a burglar prowling about in a darkened room, flashlight in hand. Some cine amateurs steer clear of lighting effects that tax their ingenuity; still, some wonderful results have been accomplished by amateurs in shooting scenes such as these, proving that amateurs can accomplish such professional effects if certain factors are kept in mind.

Practically all special effect lighting setups are predicated upon the assumption that there is one single strong light source which illuminates the scene—the flames in the fireplace, the moonlight coming through the window, the burglar's flashlight, etc. For this reason the establishing long shot should include strong evidence of this light source in the scene. Placement of set lights will be dictated by the known direction from which the respective light source shines. Obviously, the highlights will be strongly directional, and all important objects within the scene should be rimmed with sidelighting by special photolamps placed for this purpose. The remainder of the picture area should be left dark, for that is how the effect lighting gets its impact—by contrast. And yet, essential details and movements of the subjects must be clearly discernible, for which a certain amount of fill light will be needed.

These, then, represent the lighting situations that will confront the serious filmer most frequently. In each case we have outlined the procedure to follow to obtain the most professional-like results. It should be remembered, however, that only through experience and exhaustive study will the amateur learn lighting techniques and how to cope with lighting problems that continually arise. It is hoped the foregoing may prove a helpful reference guide as well as a basis on which the reader may begin really serious work in lighting interiors. END
CAMERA HEATER

(Continued from Page 250)

director of photography, anticipating the cameraman's difficulties, had made tests with camera equipment in the snow-covered mountains not far from Hollywood. "The only practical approach to the problem," he said, "was to put the heating device inside the camera close to that part of the mechanism most readily affected by low temperatures."

Back at his studio workshop, Arnold designed just such a device, installed a prototype in a Mitchell BNC camera, and made tests during a snowstorm near Mount Wilson. The heater worked perfectly. The heater and the method of installation in Mitchell cameras are illustrated in photo at bottom of the page.

"The trouble with all the old methods of camera heating," said Arnold, "is that the heat failed to reach the vital parts of the camera—the shafts which turn in precision bearings. Only by applying heat directly to this area is it possible to provide the instant starting and smooth operation of the camera in cold weather that we get when using it on the sound stage."

"After trying several approaches to the problem, we finally settled on a dual-heating element, which heats the camera mechanism at two points," Arnold added.

This heater element is shown at A in the accompanying photo of the Mitchell camera interior. Inside this unit are two small 6-volt heater elements, similar to those used in automobile dashboard cigar lighter. These are positioned inside the heater tube at B and C. Element B heats camera shaft E, while element C provides heat for camera shaft D.

Power for the heating elements is provided by an ordinary 6-volt automobile storage battery. This is a decided advantage for two reasons: 1) the need to work close to a 110-volt power source is negated, and 2) the storage battery may readily be charged on location by a garage or filling station.

As various temperature conditions are encountered, a thermostat mounted on the camera mechanism, as shown at F, provides means for setting the desired operation temperature and also maintains the temperature at a constant level. It will be noted that the thermostat is so mounted as to control the temperature of the camera mechanism rather than the interior temperature of the camera.

The installation, which consists only of the two units just described, is a simple one. It is unnecessary to alter the Mitchell camera interior in any way nor to drill and tap holes, except for the battery lead wires. The two brackets, designed especially to fit over the bearing housing at D, are fastened by means of the four original screws used at this point. The lead wires from the thermostat extend through a tiny light-proof hole at top of the camera where they terminate in a small quick-detachable plug mounted on the camera exterior. When the heater unit is to be used, the power line from the storage battery is connected at this point.

The Arnold camera heater, for which patent application has been filed, is now standard equipment at Metro-Goldwyn-Mayer studios, where it is installed on all of the company's cameras. The unit is adaptable to about every make of studio camera in use throughout the world today. Since the heater was first announced, Arnold has received inquiries from cameramen in all parts of the world.

A.S.C. PRESENTS SCROLL

(Continued from Page 247)

Art director Clarke and executive vice-president Fred W. Jackman, reads:

"In recognition of outstanding achievement, the American Society of Cinematographers confers this award of honor upon the 'I Love Lucy' show. This show, starring Lucille Ball and Desi Arnaz, photographed by Karl Freund, A.S.C., has brought to video audiences a continued series of scintillating entertainment. The Society is proud to salute you for the preeminent comedy-drama program of the year."

Before the selected sequence of the show was re-enacted, it was handled as a new show about to be filmed. The rehearsals, considerably condensed, were done, then the three dolly-mounted Mitchell cameras used in photographing the show were lined up. The set lighting was then arranged by director of photography Karl Freund, and the action "photographed" in a dry run of the cameras. An interesting feature also was the demonstration of the company's unique cueing system whereby instructions are given the camera operators and other technicians as the show progresses by the script girl assisting director Marc Daniels.

Earlier, Freund addressed the visitors and explained how the company arrived at its present method of lighting and photographing the program as a live show. He explained why it was necessary to have more or less fixed set lighting overhead, with no lamps on the floor, in order to afford a clear stage for unstructured movement of the three cameras.

Desi Arnaz, president of Desilu Productions, and co-star of the show, also exhibited the unique triple-head Moviola which was specially constructed for the company, and which affords rapid editing of the footage from the three cameras. With this equipment, Arnaz said, it is possible to obtain a complete rough cut of a show in one day.

FILM DEVELOPING OUTFIT

(Continued from Page 249)

Companion equipment consists of an automatic, motor-driven film drying rack, also pictured here. A strip-heater, located directly beneath the cage, supplies sufficient heat to speed the drying of the film. The unit will dry a roll of film in ten minutes.

To permit film to contract naturally while drying, without any danger of distorting the images, each cross arm of the rack rests on two springs which give the rack the necessary flexibility. The rack is easily assembled or knocked down for carrying. The motor supplied is 110-volts, A.C., although motors for other voltages are available.

Prices for drying rack range from $65.00 to $125.00, depending upon models and film capacity. The Miro Record film processors are available in two models—D-11, which takes up to 200 feet of double-8mm, 16mm or 70mm or 35mm film, and sells for $159.00, and D-21, which takes up to 100 feet of 70mm or 35mm film.

CINEMATOGRAPHY REVIEWS

(Continued from Page 240)

movie Hollywood has made to date. Dailey can thank Fox for giving him this juicy role plus an excellent script made to order for his exceptional talents; but he should be—and undoubtedly is—especially grateful to director of photography Tover for the fine job of lens work that contributes so much to making this picture Dan Dailey's best to date.
MAY PRODUCTION ACTIVITY: The following cinematographers were actively engaged in Hollywood during the past month directing the photography of television films:


JACK GREENHALGH, A.S.C., 26 half-hour “Ramar of The Jungle” series pictures at KTTV studios, for Arrow Productions.

JOHN MARTIN, “Wild Bill Hickok” series of half-hour telepix at Sunset Studios, for Wm. Broydie Productions.


LUCIEN ANDRIOT, A.S.C., “Rebound” series of half-hour adult dramas at RKO-Pathe Studios, for Bing Crosby Enterprises.


LESTER WHITE, A.S.C., “Dangerous Assignment,” half-hour adventure series at Goldwyn Studio, for Donley Development Corp.

KENNETH PEACH, A.S.C., “Family Theatre” series of half-hour dramas at Jerry Fairbanks Studios.

JAMES VAN TREES, A.S.C., “Groucho Marx Show,” half-hour comedy series at NBC Studio, for Filmcraft Productions.


JOHN BOYLE, A.S.C., “Big Town” series of 26 half-hour dramas at General Service Studios, for Gross-Krasne, Inc.


WILLIAM SICKNER, A.S.C., “File Of Jeffrey Jones” series at KTTV Studios, for Lindsley Parsons Productions.

ELLY FREEDRICKS, series of half-hour adult dramas at Eagle Lion Studios, for Revue Productions.

WALTER STRENGE, A.S.C., “Mystery Theatre” series, also the “My Little Margie” series of telepix at Hal Roach Studios, for Roland Reed Productions.

JOE NOVAK, series of westerns at Goldwyn Studios, for Roy Rogers Productions.

HAROLD STINE, Telescriptions series for Snader Telescriptions.

STUART THOMPSON, A.S.C., “Electric Theatre” series at Eagle Lion Studios, for Screen Televideo Productions.

ELMER DYER, A.S.C., “Craig Kennedy—Criminologist,” series of half-hour adventure telepix at Key West Studios, for Adrian Weiss Productions.

BENJAMIN KLINE, A.S.C., “Fireside Theatre” series at Eagle Lion Studios, for Frank Wisbar Productions.

CURT PETERS, “Cisco Kid” series of half-hour telepix for Ziv TV Productions.

NORBERT BRODIE, A.S.C., “Racket Squad” series of half-hour telepix at Hal Roach Studios, for Showcase Productions.

HENRY FREULICH, A.S.C., series of half-hour TV dramas at Motion Picture Center, for Edward Lewis Productions.

GORDON AVIL, series of “Frontier Detectives” western mysteries for Murphy-Thomas Productions at General Service Studios.


CLARK RAMSEY, “Ramar Of The Jungle” half-hour adventure telepix for Arrow Productions.


MACK STENGLE, A.S.C., “Beulah” series of half-hour TV comedies for Roland Reed Productions at Hal Roach Studios.

DAVID CLARK, A.S.C., the “Unexpected” series of half-hour telepix for Ziv Productions.


Fred Jackman, Jr., A.S.C., has resumed independent production of television films at General Service Studios and is directing the photography on his initial series of half-hour dramas.

(Continued on Page 271)
Columbia

Metro-Goldwyn-Mayer
- William Daniels, “Plymouth Adventure,” (Technicolor) with Spencer Tracy, GeneTierney, Van Johnson, Clarence Brown, director.
- Paul C. Vogel, “Rogue’s March,” with Peter Lawford, Janice Rule, Allan Davis, director.
- Hal Rosson, “I Love Melvin,” with Donald O’Conor, Debbie Reynolds, Dean Miller, Don Weis, director.

Monogram

Paramount
- George Barnes, “Road To Bali,” (Technicolor) with Bob Hope, Bing Crosby, Dorothy Lamour, Hal Walker, director.
- Daniel Fapp, “Pleasure Island,” with Leo Genn, Don Taylor, Audrey Dalton, F. Hugh Herbert, director.
- Lionel Lindon, “The Stars Are Shining,” (Technicolor) with Anna Maria Alberghetti, Rosemary Clooney and Lauritz Melchior, Norman Taurog, director.

RKO

American Society of Cinematographers
FOUNDED January 8, 1919, The American Society of Cinematographers is comprised of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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Warner Brothers

Universal-International
- Charles Boyle, “City Beneath the Sea,” (Technicolor) with Robert Ryan, Suzan Ball, Budai Reutter, director.
- Cliff Sine, “Willie And Joe Back At The Front,” with Tom Ewell, Harvey Lembeck, George Sherman, director.
- Russell Metty, “Magic Lady,” with Loreta Young, Jeff Chandler, Alex Nicol, and Frances Dee, Joseph Penney, director.
- Winston Hoch, “Cattle Kate,” (Technicolor) with Maureen O’Hara, Alex Nicol, Jeanne Cooper, Lee Sholem, director.

Independent

NOTE: Names of A.S.C. Directors of Photography who were engaged in the photography of films for television last month will be found in the “Television Production column” on page 269.
TELEVISION FILM PRODUCTION
(Continued from Page 269)

James VanTrees, A.S.C., having wound up the filming of the present series of Groucho Marx TV shows, will photograph the pilot film of the coming Fred Allen TV show, reportedly to follow same format as the Groucho Marx show, with audience participation, etc., and to be filmed with multiple cameras.

Walter Strenge, A.S.C., during the past twelve months has amassed a total of 150 screen credits—mostly on television films. During this period he has directed the photography on the following series of TV films for Roland Reed: "Beulah Show," "Mystery Theatre," "Space Ranger," "Stu Irwin Show," and the "My Little Margie," half-hour comedy show.

In between these assignments, he photographs the numerous industrial and public relations films which Roland Reed produces for many of the nation's leading business firms.

Hal Roach, veteran movie producer, now operating the busiest TV studio on the west coast, believes that production by Hollywood's seven major studios of short films for television for free home viewing can absorb 50 per cent of the studios' operating costs, help build stars and increase theatre attendance with fewer but better full-length movies, according to columnist Erskine Johnson, following an interview with Roach.

Concerned over the "growing shift of television film production from New York to Hollywood," the New York Board of Trade reportedly has taken steps to stem the tide westward and prevent the loss of an important segment of local motion picture film production. A TV committee has been formed to study the situation.

Karl Freund, A.S.C., director of photography of the "I Love Lucy" TV film shows, is experimenting with a new type indirect lighting equipment, said to be designed to meet his particular set lighting problems.

JOHN R. BISHOP, assistant head of Paramount studio's camera department since 1945, has succeeded Ray Wilkinson as head of the department. Latter resigned his post last month.

TECHNICOLOR Motion Picture Corp. is installing equipment that will enable the company to handle both Anso Color and Eastman color films, in addition to Technicolor.

BRIDGAMATIC Film Developing Machine

BRIDGAMATIC costs little more than old-fashioned cumbersome, slow acting rack and tank processing methods. This automatic film developing machine removes the guess, saves valuable time, protects your precious negatives. Speeds up your entire production routine. Straight 16 mm or 16/35”m combination models, negative/positive or reversal from $2995 to $9990. Develop and dry ready for showing your own spot newsreel same day events occur. TV stations, small labs., educational institutions, TV film producers, microfilmmers have proven BRIDGAMATIC in the field for several years.

Completely self contained with patented overdrive air squeegees, built-in drybox and heating elements, stainless steel tanks. No special skill required for operating—attach rubber nose and plug in.


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The American Society of Cinematographers' Magazine of Motion Picture Photography

WHAT'S NEW in equipment, accessories, service

Cine Special Motor Drive—PAR Products Corp., 926 No. Citrus, Hollywood 38, Calif., offers a new, universal motor drive designed especially for the Cine Special camera. It delivers the same torque to camera mechanism as the fully wound spring motor.

Motor, light and compact, is strong enough to drive the camera when equipped with the PAR 400-ft. film magazine.

It can be easily removed to permit use of the spring motor drive, if desired.

A reversing switch for backwinding is also available as optional equipment. Controlled speeds give range of 8-64 f.p.s. operation. Motor may be operated from a battery pack or any DC source.

Use of AC current is possible with adapter. Complete data and price may be had by writing manufacturer direct.

R.C.A. Hy-Arc Lamp—New projection lamp, the RCA Hy-Arc, has light output of 18,000 lumens, operates with a 9mm x 20" hi-intensity carbon at 70 to 90 amps. Also features magnetic stabilization; water-cooling 15" reflector; and rapid dissipation of heat. Mfr. is R.C.A Victor Div., Radio Corp. of Amer., Camden, N.J.

Amplifier-Mixer—Kinevox, Inc., 116 So. Hollywood Way, Burbank, is now in production on an entirely new amplifier-mixer—a self-contained unit having its own power supply. It provides high-level mixing; 4-position dialogue equalizer; interphone to the recording room; buzzer, etc.—all built in.

Input and output impedances are provided for connection to all standard microphones and associated equipment. For full data and price, write manufacturer direct.

Rear Projection Lens—PAR Products Corp., 926 No. Citrus, Hollywood 38, Calif., announce the Vertar rear projection lens for either 16mm or 35mm use. Lens features optical design that orients image side-to-side without auxiliary optics, minimizes "hot spot," and has a short focal length permitting use of valuable space. Throw of the Vertar for 35mm projection is only 1.4 times picture width.

Because of these and other exclusive features it is expected lens will find wide use also in television for background and process shots.

Titles and Optical Effects—Ray Mercer & Company, 4214 Normal Ave., Hollywood, have expanded facilities to service TV film producers with optical effects and titles. One of the oldest established firms in the business, the company has been supplying optical effects and titles to Hollywood's independent and major producers for more than 20 years. Company also services clients in the TV, industrial and feature film industries in other centers of the U.S. Titles and effects for the award-winning TV film show, "Fireside Theatre," were produced by the company.
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<td>NATCO 3015 projector</td>
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<td>WOODEN 400' Mitchell blimp</td>
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<td>CINEFLEX 35mm Camera w/3 lenses, magazines</td>
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<td>NEW B &amp; H 35mm Camera, silenced</td>
<td>$1,990.00</td>
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<td>NEW B &amp; H 35mm 400' magazines</td>
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<td>B &amp; H 70DA 16mm Camera w/lenses, rackfinder</td>
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<tr>
<td>KINEVOKO 35mm, Magnetic recorder, complete.</td>
<td>$1,250.00</td>
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<td>16mm ANIMATION STAND w/camera, stopmotor, etc.</td>
<td>$1,495.00</td>
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<tr>
<td>16mm BRIDGAMATIC JR. 16mm automatic motion picture camera with 2000' cap.</td>
<td>$1,295.00</td>
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<td>BRIDGAMATIC 216B, negative/positive, good, new.</td>
<td>$1,950.00</td>
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<td>Solarspots, 750W w/barndoor, differus, stand</td>
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<tr>
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<th>Price</th>
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<tr>
<td>NEW MAURER 16mm. Camera, latest model 100 viewfinder, 600 5000 B. &amp; H, 35mm, MPB, 750W, intro, 2000' cap., $1995.00; B &amp; H, 1950 S.O.F. 750W, intro, 2000' cap., $265.00. Best buys... best tradess always, BASS CAMERA \ Studio, Jr. 45, Madison St., Chicago 3, Il.</td>
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<th>Item</th>
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<tr>
<td>35mm F/1.2 Fisheye</td>
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<td>35mm F/2.8 Zeiss Tesser</td>
<td>$50.00</td>
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<tr>
<td>41mm F/2.5 Cooke</td>
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<td>90mm F/4.5 Dailey</td>
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<tr>
<td>140mm F/3.5/6.2 Tesser</td>
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<tr>
<td>15mm F/2.5 Cooke (coated)</td>
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<td>15mm F/2.5 Meyer Gorlitz (coated)</td>
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<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
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<tr>
<td>NEW MAURER 16mm. Camera, latest model 100 viewfinder, 600 5000 B. &amp; H, 35mm, MPB, 750W, intro, 2000' cap., $1995.00; B &amp; H, 1950 S.O.F. 750W, intro, 2000' cap., $265.00. Best buys... best tradess always, BASS CAMERA \ Studio, Jr. 45, Madison St., Chicago 3, Il.</td>
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<tr>
<td>B &amp; H H 35mm Camera</td>
<td>$1,295.00</td>
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<tr>
<td>16mm ANIMATION STAND w/camera</td>
<td>$1,495.00</td>
</tr>
<tr>
<td>NEW BRIDGAMATIC JR. 16mm auto</td>
<td>$795.00</td>
</tr>
<tr>
<td>BRIDGAMATIC 216B, negative/positive, good, new.</td>
<td>$1,950.00</td>
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<tr>
<td>Solarispots, 750W w/barndoor, filter stand</td>
<td>$69.50</td>
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**JUNE, 1952**

**AMERICAN CINEMATOGRAPHER**

273
CARBON ARCS

(Continued from Page 251)

intensity at any distance. Data bearing on this point, as compiled by Mole-Richardson Co., manufacturers of arc lighting equipment, are given in Fig. 1. The greater concentration of the beam at minimum spot more than offsets the smaller light collection, and results in greater beam candlepower than at wider beam spreads.

The color quality of the light source is a paramount consideration in motion picture photography. This quality in a high-intensity carbon arc makes it suitable directly or with only minor filtering when shooting with color film balanced for daylight. With film balanced for lower color temperatures, more red than green, and more green than blue light is required; thus a white light source when used with such film must have a substantial portion of its blue and green content removed.

As an example, with a black body at 3350° K., the blue content is exceeded by the green content by about twice, and by the red content about three times. Matching this radiation with a white light source, or one with approximately equal energy at all wavelengths, requires filtering of an order which will diminish by at least two-thirds the blue content and by one-third the green content inherent in the light source. This filtering represents a theoretical light loss of about one-third.

With color films definitely on the upswing, the following summary of the present state of the art relative to particular types of color film should prove of interest:

**150 Foot-candle Film Balanced for 3350° K.** As a complementary to this discussion, the assumption here is that a deep amber filter of about 50% foot-transmission will enable the use of carbon arc lamps of any type of film. The type of gelatin filter combination now being used with Technicolor film of this type matches these characteristics; however, a much higher degree of light transmission is quite possible, as aforementioned. Also directly suitable for this are inks of the proper color temperature.

**300 Foot-candle Film Balanced for Daylight.** Present studio practice, based on extensive tests, indicates that a light-yellow Y-3 filter effecting 90% light transmission will enable the use of carbon arc lamps with this film. By way of contrast, incandescent lamps of 3350° K. color temperature must utilize deep blue filters having only about a 40% light transmission value.

**450 Foot-candle Film Balanced for Daylight.** Penetrating power, which makes possible the projection of useful light intensities from great distances with a single lamp, has long been an outstanding advantage of carbon arc studio lighting. Projectionists well understand that, with a given lamp setting, the inverse square law dictates that the light decreases rapidly with increasing distance.

Now, it follows that if a lamp be placed close to a set having any appreciable depth, the ensuing light intensity will vary en route across the set. There is only one answer to this problem—a light source with enough penetrating power to permit its positioning farther away from the set so that set depth becomes a smaller fraction of the projection throw.

This penetrating power (projection throw) of the different lamps for the same photographic effect at the center of the beam is indicated in Fig. 3. Figures in the tables show the distances at which the lamps considered, with proper filtering, will project 150, 300, and 450 foot-candles of light intensity for the three types of film mentioned previously.

Now we come to the crux of this presentation. Fig. 3 shows that with the beam spread adjusted for minimum spot, the indicated intensities will be projected about three times as far as when the lamp is set for full flood. We see here that at minimum spot the most powerful carbon arc will project the indicated intensities more than 180 feet for the 150 foot-candle film, and more than 170 feet for the 300 foot-candle film.

By way of contrast, it will be noted the most powerful inkie tungsten lamp (the "Senior") is much lower in penetrating power than the most commonly used arc lamp, the type 170, when used with the 3350° K. type film. Where the carbon arc and the inkie emphatically part company, to the distinct advantage of the former, is with the use of the 300 and the 450 foot-candle daylight type color film, by reason of the more favorable filter factors. In this category none of the inkie lamps even approach the light output of any of the carbon arcs.

Fig. 3 also shows the requisites for coverage of depth of the set—that is, the range of projection distance which can be effectively lighted within plus or minus 20% of the specified light intensity in a given case. It is seen that the more powerful carbon arc lamps and the small beam spreads are required to achieve this degree of light uniformity on sets deeper than 25 feet. It is always possible, of course, to use a number of lesser-intensity units at the same distance to attain the equivalent light uniformity across the set; but this procedure might sometimes result in undesirable multiple shadows.

(Continued next month)
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William Skall, ASC, directs the photography for MGM's "Everything I Have Is Yours," featuring Marge and Gower Champion.

THIS MONTH
- A New TV Filming Method
- Stereo Movies Without Spectacles
- Shooting Goldwyn's 4-Million Dollar Movie
"The Big Sky"—a Winchester Pictures production by Howard Hawks for RKO Radio, starring Kirk Douglas—is another outstanding picture made on Du Pont Motion Picture Film.

Producer-director Howard Hawks (left) and his RKO Radio camera crew, headed by Russell Harlan, A. S. C., have donned waders to set up a location scene in Wyoming's treacherous Snake River...for a "take" on Du Pont "Superior" 2.

For shooting on location...and for general studio interior or exterior work...Du Pont "Superior" 2 is heartily approved by leading cinematographers. It's a top-quality panchromatic film combining fine grain with speed and wide latitude, which assures excellent results with either high- or low-key lighting. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Dept., Wilmington 98, Del.
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To do this successfully, day in and day out, requires highly competent staff teamwork, plus the finest equipment. The staff at KTTV who work with Bell & Howell camera, projector and editing equipment have found it perfect for the job!

Single-Case Filmsound Projector. First choice of TV experts for previewing film before broadcasting . . . and for showing film to clients. Projects 16mm film—sound or silent. Complete film protection permits running originals or work prints without fear of damage. Change from forward to reverse or vice versa at flick of a switch—no re-threading necessary. Light, compact, easy to operate.

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FEATURES

Hollywood Bulletin Board

Cinematography Reviews

Television Film Production

Current Assignments of A.S.C. Members

What's New In Equipment, Accessories, Service

ON THE COVER

The Camera's Rolling on a closeup of Marge and Gower Champion for MGM's "Everything I Have Is Yours," in which this famed dancing duo gets top billing. Directing the photography is William V. Skall, A.S.C. (second from right in background). In front of Skall is Robert Z. Leonard, director of the production. Recording the scene is a crane-mounted Technicolor camera.

—Photo by Frank Shugrue.
The 16mm Professional has the same proven Mitchell 35mm features—to bring 35mm quality to 16mm screens. Equipped with 16mm Mitchell blimp, this camera is a favorite of leading commercial producers for sound photography.

For over 25 years, Mitchell Cameras have set professional photographic standards for the Motion Picture Industry. These flawlessly designed, ruggedly constructed cameras have proven themselves in smooth, positive operation under the most exacting conditions. Today, as yesterday, the World’s greatest films depend upon Mitchell—professional equipment for truly professional results.

The Mitchell 35mm Camera—standard equipment of major studios—is internationally known for dependability and performance. For superb photography, Mitchell 35's are available in BNC (blimp unnecessary), NC and Hi-Speed models to meet every requirement.
HAL MOHR, A.S.C., member of the Board of Governors of the Academy of Motion Picture Arts and Sciences and chairman of the Forum committee, writes a question for submission to the panel that participated in the forum discussion of the Bartlett-Foster production, "Navajo," following a screening at the Academy Theatre.

ALAN M. GUNDELFINCER and FERDINAND L. EICH were elected associate members of the American Society of Cinematographers last month. Gundelfinger is an executive with Cinecolor Corporation and Eich is with Paramount Pictures’ film laboratory. Both men were formally presented to the A.S.C. membership at the Society’s monthly meeting June 30th.

JACK ROSE, A.S.C., is currently preparing his American Cinematographer Handbook for its eighth printing. Demand for book continues from industry technicians in every country in the world.

HARRY STRADLING, A.S.C., following the windup of filming "Hans Christian Anderson" for Goldwyn, started packing for a three-month’s vacation in Europe. Howard Hughes persuaded him to defer trip long enough to direct the photography of RKO’s "The Murder," in return for which Hughes promised Stradling he’d foot his European vacation bill and pay his plane fare back both ways!

LEN ROOS, A.S.C., president of Kinevox, Inc., has designed a new mechanical-optical scene slate which fits on camera before lens, enables camera assistant to record slate data at beginning of each take in a matter of seconds. Prototype was installed on Mitchell camera used by John Boyle, who’s shooting TV films for Gross-Krasne Productions, at General Service Studios. Roos will put slate into general production July 1st.

PHIL TANNURA, A.S.C., has presented to the Ford Foundation a unique motion picture project having to do with making permanent records on film of important places and events in history of U.S. for benefit of future generations. Plan has been accepted for study by Foundation committee. When finally okayed, project will open a production undertaking by Tannura of several years’ duration.

OLLIE COMSTEDT, A.S.C., who was asso- ciate producer and director of photography on "A Glassful of History," chats with Burgess Meredith, star of the picture, which was produced for the Puerto Rican Rum Institute.

RAY FERNSTROM, A.S.C., who recently completed photographic assignment in Hollywood for Reid H. Ray Industries, St. Paul, Minnesota, has been signed to term contract by the company and will begin his new assignment at the St. Paul studios July 1st. He goes to Florida later to shoot a series of pictures in Ansco Color for Reid Ray for theatre and TV presentation.

HARRY J. WILD, A.S.C., becomes Jane Russell’s private and exclusive cameraman, following re-optioning of Wild by Howard Hughes at RKO. Henceforth, Wild will not be available for assignments other than films starring Miss Russell, and will go to other studios to photograph her whenever she is loaned.

JOHN W. BOYLE, A.S.C. and HAL MOHR, A.S.C., have been elected by the Academy of Motion Picture Arts and Sciences to serve on two of the five committees recently appointed for 1952 by Academy president Charles Brackett. Boyle will serve on the Awards Rules and Planning Committee; Mohr on the Forum Committee.


BING CROSBY ENTERPRISES reportedly will have its sight-and-sound electronic tape system ready for practical use within 30 days. Initial public demonstration is tentatively scheduled for July 15th.

DUPONT, who makes a large percentage of the film used in Hollywood for theatrical and TV films, has been commended by the American Society of Cinematographers for recognition given by the Company on its national radio program, “Cavalcade of America,” to the industry’s cameramen. Harry Stradling, A.S.C., was cited on the May 27th pro- (Continued on Page 322)
COLOR FILM DEVELOPERS, Models 19, 20 and 26 completely and automatically process Ansco Color Film to highest professional standards. 35mm and 16mm models. Handle both camera and print stock. Entirely self-contained with refrigeration and re-circulating systems, air compressor and positive temperature controls.

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Cinematography Reviews

Of Pictures Previewed in Hollywood Last Month


“The Happy Time” is the sprightly story of “the coming of age” of a teenage boy—his first reaching for maturity on everything from an intellectual plane to the first sex manifestations. In “Happy Time,” everybody loves somebody. And it is evident that cinematographer Lawton loved this assignment, for he has given the picture a rare pictorial charm, skilfully interpreting the atmosphere the production designer had in mind when planning the sets. The various changing moods, too, are immeasurably helped by Lawton’s skillful set lighting and choice of camera angles.

This is particularly marked in the comparison of the lighting in the drab interior of the home of the bibulous Kurt Kasnar as compared with the cheery atmosphere in the home of his brother, Charles Boyer. Here are excellent studies in effective mood lighting, subtle, but powerful in its ability to “draw” the spectator into the very story itself.

Here, too, one may witness the effectiveness of Lawton’s technique on story-enhancing camera angles, as when he places his camera at table level for the scenes of the family at dinner, giving you an intimate view of the action as if seated at the table yourself.

On his exteriors, Lawton adds just enough fill and hoister light to round out his players, gain effective separation and otherwise give the overall scene an interesting pictorial effect.

It isn’t often that Lawton—who has shot everything at Columbia from “sagebrushers” to top-grossers—gets a picture like this one that he can “sink his teeth in,” but when he does, he demonstrates a versatility that someday will net him an Academy Award.


A fast adventure yarn, adapted from Kenneth Robert’s novel of the same name, “Lydia Bailey” is set against the story of Haiti’s struggle for independence from Napoleonic France in 1802, at a time when no white man was safe in Haiti.

Technically, this is one of the best color productions to come out of Holly-

wood in a long time. A portion of the picture was actually photographed in Haiti, which gives it an authentic atmosphere and added interest. But it is the reproduction of Haitian scenes on the studio lot and sound stage that are most impressive, especially when given meticulous lighting by Jackson.

There is considerable low-key footage—night scenes, the chase scenes in the jungle, and the city burning at night—and here Jackson gives the scenes the utmost authenticity through meticulous exposure and proper use of fill light. These are scenes recommended for study by students of cinematography.

The travel and trucking shots are subtly done, and are used most effectively to point up suspense in several instances.

The two sequences deserving special mention for photographic excellence are the burning of the plantation home and the voodoo dancing scenes.


With Robert Taylor, Elizabeth Taylor, Joan Fontaine, George Sanders and Emlyn Williams heading the cast of many thousands, MGM presents in “Ivanhoe” a great motion picture, based on the literary masterpiece by Sir Walter Scott. Here is a tale of high adventure and exciting romance given tremendous scope by a truly skillful cinematographer and his camera. The production is replete with scenes so vast in grandeur and action that only the most skillful planning and execution of the camera work could encompass it all and bring it to the screen with the necessary dramatic emphasis.

Cinematographer Young demonstrates a rare skill for Technicolor lighting, and there are countless scenes which demonstrate his ability to deliver natural color and skin tones in admittedly difficult lighting conditions.

Perhaps the most interesting feature of the picture, from point of lighting, is the extraordinary use of projected colored light into scenes to emphasize mood, or to give a scene pictorial and color balance not otherwise possible. As a result, scene after scene equals in pictorial grandeur some of the best of the rare canvases of the old master painters. Here, Freddie Young demon-

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Hollywood Last Month

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strates the real technique of painting with light.

The engineering of the travelling camera shots on this production must have been tremendous, and here Young's camera crew must come in for a fair share of honors.

Some of the most spectacular scenes from the point of photography as well as action are the jousting shots, the scenes of warriors storming the citadel walls, and the close shots of the storms of arrows striking the gate under seige.

Painstakingly staged, every shot is a masterpiece pictorially. Here, unquestionably, is a solid contender in next year's Academy Awards competition.


"Park Row" is the story of rival newspapers laid in the early "1900's" on Park Row of New York City. Gene Evans, who starred in Fuller's "Steel Helmet," is also the star of this picture. Most of the action takes place at night, presumably because so much of a newspaper man's activities in those days occurred evenings and when most of the papers were "morning editions." Also, the low key lighting necessary for these scenes served to point up the skuldugger that seems continually to take place.

All in all, cinematographer Russell has his camera grinding on night shots about 90% of the time. Thus the picture offers an excellent, sustained study of this type lighting for black-and-white photography.

The night exteriors are shot at night—no day for night shots—and here Russell's lighting is most effective.


Ann Blyth stars in this whimsical story about an 11-year old schoolgirl who prays to St. Ann for the needs of her friends and family. Ann grows to womanhood with St. Ann still granting her requests for help for others. In between, she helps defeat a conniving neighbor seeking to take her grandfather's property, and wins the heart of the neighbor boy who "remembered her when.

Glassberg would probably call this an ordinary, routine photographic job; yet it has its interesting moments for the student of cinematography. Perhaps the most interesting is the way in which Glassberg uses his camera to aid the

(Continued on Page 322)
BALANCED TV HEAD

We threw the book away and engineered a brand new "BALANCED" Tripod for every photographic and video need. The result—a revelation in effortless operation, super-smooth tilt and 360° pan action.

PERFECT BALANCE prevents mishap if the lock lever is not applied. Quick release pan handle locks into desired position. Mechanism is enclosed, rust-proof, needs no lubrication. Tension adjustment for Camera Man's preference. Built-in spirit level. Telescoping extension pan handle. We defy you to get anything but the smoothest, most efficient operation out of this tripod beauty.

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Runs in perfect synchronization with either 16mm or 35mm Sound Recorders. Mounting platform permits removal of magazine while camera remains mounted on motor. Spring steel drive pin coupling prevents damage if film jam occurs. Knurled knob on armature permits rotating for threading. "On-Off" switch in base. Platform base threaded for ¼" or ¾" tripod tie-down screw. Rubber covered power cable with plugs included.

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Handles all 16mm cameras, with or without motor. Also 35mm DeVry, B & H Eyemo with and without motor, and 400' magazines. Tripod base interchangeable with Professional Junior gear drive head. "Baby" tripod base and "Hi-Hat" base available.

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Harry Stradling accents
illusion with unusual lighting in

Shooting Goldwyn's 4-Million Dollar Movie

By RALPH LAWTON

PHANTASY AND ILLUSION went hand in hand in the creation of Samuel Goldwyn's exciting new production, "Hans Christian Andersen," in which the director of photography, Harry Stradling, ASC, had an important hand in the pictorial planning.

Here was to be Goldwyn's supreme cinematic effort—a super production, a labor of love—in which the sky was the proverbial limit for the production budget. Not that extravagance was tolerated, but Goldwyn was willing to spare nothing in an effort to bring to the screen the finest ballet numbers ever presented in motion pictures.

For one sequence alone, Goldwyn had built a replica of practically the entire main square of old Copenhagen. This
set, which cost around $200,000, occupied every available inch of a huge 30,000 square foot sound stage—is easily one of the most pretentious sets ever constructed, and posed many unique lighting problems.

When Stradling required a staff of assistants to do nothing else but make and install the hundreds of special filter gelatins required on the set lighting lamps, Goldwyn readily okayed the cost—$30,000. The picture easily cost the $4,000,000 for which it was originally budgeted.

Obviously, here was one production where the director of photography could work unhampered by costs and production time limits, and this fact made possible the really fine artistic touches which mark the photography.

Because so much of the production's unique pictorial effect would rest with the director of photography, Stradling sat in on nearly every major planning conference once the production was set. Miniatures were constructed of all key sets for the production and these afforded Stradling opportunity to visualize and plan his lighting long before the sets were erected. Earlier, he consulted with art director Richard Day in the planning of these sets on paper, at which time all the requirements for placing the set lighting equipment were carefully considered and provided for. "This saved us many hours of valuable time later when it came time to rig the sets," said Stradling.

Every scene for the picture, except that of the flying kite, was shot indoors on the sound stage. This immediately posed the problem of establishing a lighting scheme for interiors different from that for the "indoor" exteriors—establishing a key which would govern the lighting of subsequent scenes in each category.

There are many tricks that are employed in lighting exteriors filmed indoors in order to give them the authenticity of the real outdoors. Only through years of study and use of set lighting equipment is it possible for the director of photography to successfully attain this illusion. An example of just one unique pictorial touch given by Stradling to one scene was that of the vast set representing the road to Copenhagen, which occupied the entire floor of stage 5. Here, the predominant tone was green—green trees, foliage, grass, etc. In order to get sufficient separation between the green areas, Stradling had a fine mist sprayed on the green foliage. This added a myriad of highlights which enhanced separation and added immeasurably to the overall pictorial effect.

Again, because a scene having a pool prominently in the foreground was photographed indoors on the sound stage, it was Stradling's suggestion of adding blue coloring to the water in the pool that resulted in the scene photographing more realistically, with the pool appearing to reflect the natural blue color of the sky. But coloring the water was not the only problem; it was also necessary to place the lights with special care to produce the illusion of daylight.

From the very beginning, illusion became the keynote of the photography—a grand illusion that would enchant the audience and captivate it with pictorial settings in which Danny Kaye, Farley Granger, Jeanmaire and others enact the charming story.

The challenge for Stradling was to effectively light and photograph simple sets for the ballet numbers, such as the one composed of only a huge backdrop that came alive when colored lights played upon it, or a bare stage floor over which festoons of delicately tinted strips of ragged gauze hung from the ceiling, representing an underwater scene. In the stark illumination of the stage worklights, such scenes were drab and lifeless; but when Stradling painted these sets with delicately filtered light, the transformation was exciting. And when Jeanmaire, the petite French ballerina, and her troupe danced about the stage, the whole effect became a Technicolor dream scene.

(Continued on Page 308)
We Filmed 'Kangaroo' Entirely In Australia

Using limited equipment, this color production was filmed with Monopack almost entirely in natural locales, some 1200 miles from Sydney.

By CHARLES G. CLARKE, ASC

Twentieth Century-Fox's "Kangaroo," now in general release throughout the United States, is the first Technicolor feature production to be made in Australia by a Hollywood studio. While filming in any distant location invariably presents special problems, Australia offered many which we never before had encountered. "Kangaroo" was photographed with Technicolor Monopack film, sensitized for daylight. This made it necessary to have arc lights for interiors and for booster fill light. No arc equipment suitable for color photography was available in Sydney. It was therefore necessary for us to ship all our lights, generators and attendant equipment to Australia many weeks in advance of the arrival of our key Hollywood personnel. The Ealing Studio at Pagewood, a suburb of Sydney, was leased by Fox and became our production headquarters.

As soon as our gear arrived and was uncrated at Ealing, a schooling program was begun for the Australian studio workers who were to assist us. Here they were trained in the operation of arc lights and sound apparatus, and familiarized with our grip equipment.

Very soon after our arrival it became evident that our script should be altered to take in as much of Australia settings and color as possible. While Mr. Milestone, the director, and Mr. Kleiner, the writer were revamping the script, art director Mark Lee Kirk and myself explored Sydney, and made trips into the back country of central Australia in search of locations.

Here we made stills of possible sites, and these were submitted and studied in a conference held with Mr. Milestone and members of the production department. Because locale of the story was that of an Australian cattle station (ranch) under drought conditions, a naturally dry area was called for in the script, which stipulated: "It should have a barren mountain range for a background for pictorial effect, and dry watercourses along which are scattered ancient eucalyptus trees that have known better seasons." We searched hundreds of miles on both sides of the Flinders...
Range looking for such a spot. Of course accessibility to transportation and availability to human wants and supplies had to be considered also. Hence it came about that a site was selected on a foot-hill bench about seven miles east of Port Augusta. This town is at the head of Spencer Gulf in south-central Australia.

Housing is a big problem in Australia. The hotel system is reportedly owned and controlled by the brewery interests throughout the land, and the aim of local hostelries seems to be to furnish a few primitive rooms as an adjunct to the bar. Because of socialized government and a thirty-five hour working week, everything is in short supply; therefore little new building is being done. For these reasons there is little incentive for tourist travel with the result that Australia remains the least known and understood of the great nations.

To move a film troupe of some ninety people into a small Australian town was therefore quite an undertaking. The townspeople were quite thrilled with the prospect of having a movie company with them, and lent every assistance and courtesy to make our venture a pleasure. If “Kangaroo” fails to come up to their expectations we will all feel that we have let them down. Fortunately the Governor of the state of South Australia, where we proposed to work, is a very progressive man. He appreciated the great economic value to his country of an expensive motion picture being filmed there.

Governor Paddleford also gave us every assistance; and indeed without it the film simply could not have been made. It so happened that housing facilities were soon to be built for an electric power project near Port Augusta. The Governor purposely moved this building program ahead so that it would become available for our use. He also made it possible for us to obtain the construction materials necessary for our sets.

Our “Station House” set was unusual in that we did both exteriors and interiors on the site. It consisted of a large, complete four-walled ranch-house plus all the out-buildings, barns, corrals, windmills, etc. The house was finished in detail inside, and completely furnished. The only difference was the extra heavy beams necessary to support the heavy lamps used for lighting. Some of the walls were removable and the construction was engineered so that the roof would remain intact when certain walls were taken out.

While this building was going on, we started filming in Sydney. The “Flop house” set had been erected on a stage of the Ealing Studio. This was the only studio-built set in the entire production. All other interiors were shot in actual buildings. For example, the “gambling house” was an old residence in Sydney known as the Elizabeth Bay House, and was occupied by roomers while we worked there. It was quite a problem to get our lights in and to find a place to put them. Keeping the cables out of camera range was a constant challenge, and the electrical crew under Charles Wise did a heroic job.

Working in such practical sets meant that they had to be rigged every morning and completely struck each night. Location work meant that each member of the crew had to be ingenious, and cooperative with his co-workers. The “Kangaroo” company was fortunate in having a crew with wonderful spirit and a fine sense of cooperation. Our Australian staff cheerfully worked hard and long with us to make the picture a success.

The night exteriors were filmed in the daytime outside of this same building. Some of the long shots were made at dusk while others having more restricted area were filmed under diffusers to cut down the strong overhead daylight.

Actually no more lamps than normally used for booster lighting were shipped to us from Hollywood. So, later when Mr. Milestone had written into the script a number of additional night exterior scenes for the opening of the picture, we agreed that they could be made if we filmed them at twilight—a few each evening. Here I used what few lights I had plus a few incandescent units from Ealing studio. These were placed so as to add highlights for the street lamp and window effects. By balancing this illumination with the remaining twilight, the night scenes were successfully photographed. The dock and

(Continued on Page 315)
Carbon Arcs For Motion Picture Set Lighting

Part 2

By HENRY B. SELLWOOD
Editor, International Projectionist

IN PART ONE of this discussion, which appeared in our June issue, the author, using text and charts, compared the characteristics of carbon arc and incandescent studio lamps and the performance of each type lamp for equivalent photographic effect with various types of color film — placing special emphasis on the penetrating power of carbon arcs.—EDITOR.

Covering power is another vitally important factor in studio set lighting. This term applies to the area of a set which can be lighted to a given intensity with a single lamp, and may be defined in terms of the diameter of the spot over which this intensity can be obtained. The diameter of the spot, of course, is dependent upon the projection throw and the beam spread.

In this important respect the carbon arc exhibits marked superiority over any other light source, because of the high lumen content of the light beam it produces.

When the term “boundary light” is used in motion picture photography, it is taken to mean the point where the projected light intensity is 10% of that at the center of the set. However, not infrequently more than 10% of the maximum center intensity may be required in certain cases. Thus the lamp performance chart (Fig. 3, June issue) shows covering power values for boundary intensities of 50% of the center set value.

The foregoing definition of covering power is applicable for the figures given in Fig. 3 for the lamps and film conditions considered previously. It is apparent from this same table of figures that the carbon arc lamps at minimum spot can effectively cover set widths ranging from 10 to 40 feet on the basis of a 10% boundary intensity—which coverage is in sharp contrast to that of incadescent which are limited to about one-half of this. For a 50% boundary light intensity, the carbon arc at minimum spot coverage is about one-half to two-thirds as much as it is for the 10% level.

Much greater covering power is obtainable with the carbon arc at full flood than at the minimum spot position, because of the greater lumen output at the flood position. Also, the covering powers of the 50% and the 10% boundary intensities are more nearly identical at full flood, the result of a more uniform distribution of light across the wider beams.

Set areas which can be illuminated to a given intensity will naturally depend upon the square of the corresponding beam diameters shown in Fig. 3. It is not possible to specify these areas even in a general way, since the angle at which the light beam strikes a given set is dependent upon the particular effect desired.

Figure A is a scale diagram of data from Figs. 1 and 3 (May issue) showing the penetrating power, beam diameter and beam spread of the various carbon arc and inlame lights. This graphically portrays the outstanding ability of carbon arc lamps to project over long distances and to cover large set areas.

The formation and structure of shadows formed by a light source, as shown in Fig. B, is a subject for unending exploration by lighting technicians. That degree of sharpness which is cast by the various lamps is determined by the source size and is measured by the apparent angle subtended by the effective portion of the light source at the object producing the shadow.

As is evident from Fig. B, the area over which the shadow varies from complete darkness to full-light intensity will be smaller and the shadow sharper when the angular extent of the light source (θ) is as small as possible.  

(Continued on Page 319)
The development of practical 3-dimensional motion pictures for theatre presentation continues to gain interest both here and abroad. Recent issues of American Cinematographer have reported interesting stereo developments in the United States and in England, and in the May issue the stereo-film system of a Holland engineer was described. In all these systems, the auditors were required to wear Polaroid viewing spectacles.

The special viewing spectacles factor has, so far, been the major objection to systems offered for theatrical presentation of 3-dimension films. Both producers and exhibitors of feature films believe the need for wearing special glasses would, as soon as the novelty of stereo wore off, discourage the public from patronizing such film presentations.

During the past several years Mr. L. Dodin, a French consulting engineer, has pursued an entirely different method for presenting 3-dimension movies to theatre audiences—a method that precludes the need for wearing special glasses. Both producers and exhibitors of feature films believe the need for wearing special glasses would, as soon as the novelty of stereo wore off, discourage the public from patronizing such film presentations.

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According to Mr. Dodin, numerous patents have been granted on his system both here and in Europe. He is continuing his development, anticipating that the Hollywood motion picture industry, which he believes will be the first to offer stereo feature films to the public, ultimately will find it the answer to practical presentation of 3-dimension movies to large theatre audiences.

"The only unavoidable defect in other stereo processes," says Mr. Dodin, "is the necessity of having to wear special viewing spectacles. With my screen, which virtually transports the eye of the viewer to another position in the theatre or auditorium, this disadvantage disappears since it is now possible to adapt the viewing aids on the image that the eye will perceive, and not directly on to the eye itself."

In other words, Mr. Dodin has found it possible to adapt the essential mechanics of certain types of stereo viewing spectacles directly to and within his stereofilm projection system, thereby eliminating the exhibitor's chief objection to stereo films.

It should be noted first that in Dodin's system the entire theatre auditorium constitutes a gigantic optical instrument, which is composed of the following elements:

1) The eyes of the spectators.
2) A main screen (M in Figs. 1 & 2)

(Continued on Page 309)
Filters In Cinematography

By JOHN FORBES

ONLY A FEW YEARS ago, a filter was simply a piece of tinted glass or gelatin placed before the camera lens to heighten contrast—to darken skies and emphasize clouds. Today, filters are an important part of the photography of nearly all motion pictures.

Filters and what they can do when used with certain films under specific conditions are subjects of continuing study by studio laboratories and by the foremost directors of photography. Thanks to this continuing development and improvement of filters, new color film processes have been perfected for motion pictures; the contrast quality of films for television have been improved; and black-and-white films can now give certain outdoor film productions a pictorial impact equal to color.

Today, the professional cinematographer must have a thorough knowledge of the use and care of photographic filters, and of the results to be obtained with them. Filters of different colors, densities and substance are used in photography for many different and specific reasons.

Correction filters are used to alter the response of the film, so that all color will be recorded at the brightness level seen by the eye.

Color correction filters are used to balance color film for the color temperature of the illumination source, whether it be sunlight, or incandescent or arc light.

Diffusion filters are used to soften sharpness of image, creating a pleasing, soft pictorial quality. They are used to considerable extent in filming very large closeups of players.

Fog filters are used to create an illusion of fog in a scene by producing a misty or atmospheric haze effect, optically.

Neutral density filters reduce the amount of light passing through the lens, but otherwise do not affect the tonal rendition of the scene. These filters are used to neutralize extreme contrast, or when the prevailing light is so strong, over-exposure results even when the smallest stop on the lens is used; also for creating a softening effect on harsh-lit subjects in a scene.

Polarizing filters or “screens” are a special type of light absorber used for controlling strong glare and brightness of sky, water, or certain bright objects within a scene.

The use of filters in most instances

(Continued on Page 313)
The greatest justification for the fabulous faith of ALL CINEMATOGRAPHERS who acclaim PLUS X NEGATIVE is the fact that it is manufactured by EASTMAN KODAK COMPANY

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Three television cameras cover the action, while in the film recording center at lower left a motion picture camera photographs result of the TV camera pickups from a monitor screen.—Photos courtesy Standard Oil Company of California.

Electronic-Photo Recording—New TV Filming Method

Photographing TV shows directly from monitor tube offers advantages of electronic cutting, benefits of smaller lens apertures.

By CHARLES L. ANDERSON

The merits of filmed television programs vs. live ones have been disputed almost as long as TV broadcasting has been in operation. There are enough advantages to both systems to keep one from completely dominating the airwaves. Now in San Francisco an outstanding TV program series is being prepared, in which the advantages of live and filmed shows are combined.

"The Standard Hour," presented by Standard Oil Company of California, has been a favorite West Coast classical-music radio program for twenty-five years, and this fall an experimental 13-week TV version will be telecast in addition to the radio series. It is now being recorded on film by a new procedure developed especially for this program.

Standard's executive producer, Adrian Michaelis, knew that the large-scale opera and ballet numbers scheduled for the program could not be staged on a live show each week without incurring tremendous expense. Straight filming of the programs for telecasting was also considered and rejected. Regular motion picture procedure would have required repeating the action too often in recording it from a variety of angles; and there would be no assurance the scenes were recorded exactly as desired until the first rushes were screened.

Michaelis organized a staff of television and film experts in San Francisco to produce "The Standard Hour" TV show. They developed a "modified kinescope" technique which is proving to be an ideal solution to the problem. Briefly, it works in this manner: Three or four television cameras are trained on the singers, dancers, or musicians during a musical number. The picture signals from these cameras are fed to nearby monitor screens and a switching panel. A large monitor screen at the end of the control area carries the selected image to be recorded on film. Meanwhile, a video-recording camera photographs this screen continuously during takes.

Technically, this procedure is known as kinescoping, but in practice it no more resembles ordinary kinescoping than a...
SLATING the scene before starting the take—unusual in television, but necessary in this system because the program is photographed on film through the video electronic system; thus slate aids the cutter in the final editing.

The program is photographed on film through the video electronic system; thus slate aids the cutter in television, but necessary in this system because SLATING the scene before starting the take—unusual in the final editing.

In this case the program is not being broadcast "live" during the performance. No one sees it but the people on the set and at the monitoring screens. And action may be repeated until the director gets exactly what he wants. He has the double advantage of being able to watch the action on a television screen, exactly as it will appear on home sets months later—and to ask for a re-take if he isn't satisfied. Neither straight movie filming nor a live show can offer both these advantages.

Filming of the television image is in the hands of William A. Palmer, a producer of industrial motion pictures in San Francisco for many years. Before the "Standard Hour" filming, almost all kinescoping was set up by electronic engineers on a more or less theoretical basis. If an exceptionally bright screen or a positive film stock were supposed to produce a better image, they were used. Palmer's idea is that he gets the best picture if he can watch a recording-monitor screen of normal brightness and contrast. His film stocks and developing times are balanced to reproduce in the final broadcasted image almost exactly what he sees on the screen before his camera. Palmer prefers to balance each scene for contrast and brightness right on the monitoring screen. He claims that photographing a program of the calibre of "The Standard Hour" can't be done on a "slide rule" basis.

Before a foot of film is exposed for one of the programs, all musical selections are recorded on a high-fidelity Ampex tape recorder. Carmen Dragon, network radio and motion picture conductor, leads the Standard Symphony Orchestra in San Francisco's Radio City. The best "takes" are dubbed onto perforated 16mm magnetic film, and this is considered the best hideout of half-hour westerns at Sunset Studios, for William Broidy Productions.

JUNE PRODUCTION ACTIVITY - The following cinematographers were actively engaged in Hollywood during the past month directing the photography of television films:


Robert Pittack, A.S.C., "Lone Ranger" series of half-hour westerns at General Service Studios, for Jack Chertok Productions.

Clarence Ramsey, "Ramar Of The Jungle," half-hour adventure pictures for Arrow Productions, at KTTV Studios.

Mack Stengler, A.S.C., "Beulah" series of half-hour comedies for Roland Reed Productions, at Hal Roach Studios.


Harold Stine, Telescriptions series of short musical films for Snader Telescriptions, at California Studios.

Walter Stryenge, A.S.C., "Mystery Theatre" series, also the "My Little Margie" series of half-hour pictures at Hal Roach Studios for Roland Reed Productions.

Stuart Thompson, A.S.C., "Cavalcade Of America" series of half-hour dramas at Eagle Lion Studios for Screen Television Productions.

Phil Tannura, A.S.C., "The Burns And Allen Show," series of half-hour comedies at General Service Studios, for Ralph Levy Productions.


Biggest news in the realm of television film production last month was the announcement that the major studios were planning to enter into TV film production. Two Hollywood studios already are "in the business" with subsidiary companies turning out video films. These are Universal-International's United World Productions, and Columbia Pictures' Screen Gems. Latter made trade paper headlines June 10th with announcement that company has signed contract to produce a series of TV films for Ford Motor Company. In connection with this, the daily Variety said: "All of the
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Filming A Winner

Mother and son combined their creative talents to produce a puppet film, used the family garage for a shooting stage.

By ARTHUR ROWAN

The March 1st deadline arrived all too soon for Joseph and Elgie Fischer. They had their entry completely filmed and edited, but had not yet time to provide the narration which was to be recorded on tape. Nevertheless, their entry, "Goldilocks and the Three Bears," minus narrative, won an Honorable Mention certificate award in American Cinematographer's 1952 Amateur Motion Picture Competition.

There is quite a story behind the making of this remarkable 16mm Kodachrome picture featuring puppets. It was begun expressly as an entry in American Cinematographer's 1952 competition. Fischer, an engineer at Northrup Aircraft Corp., in Los Angeles is an artist and musician of note as also is his mother, Mrs. Elgie F. Fischer, who "co-produced" the picture with him. Both have an extensive background of little theatre work and more recently of producing puppet shows.

When they determined to make a film for the 1952 competition, they never before had made a full-length movie. Indeed, they had been shooting movies only a year. At first they rented a 16mm camera. They didn't know enough about handling it—there were no Kodak Cine Photoguides then!—with the result their first 300 feet of Kodachrome was a failure. This so discouraged them, the whole idea of making movies was promptly abandoned. But this discouragement wore off with time, and very soon the old creative urge saw the Fischers contemplating a resumption of cinefilming activities.

This time they bought their own camera—a Filmo 70-D. They very carefully read the instruction book, plus one or two other books on the subject, and this intensive study plus their monthly perusal of American Cinematographer's Amateur Cinematography section, soon had them in action again.

"In 'Goldilocks and the Three Bears,' our first full-length film," said Mrs. Fischer, "we followed the story as it was told by a grandmother in our family in Virginia generations ago. So, immediately after the main title (which suggests the 'Once upon a time ...' spoken by the unseen narrator in person) we show shots of Papa Bear, Mama Bear, and the little, tiny Baby Bear.

"Then follows a long shot of the Bears' living room, followed by closeups of the three porridge bowls, the three chairs and the three beds in anticipation of the story that is to come. Showing of the beds, of course, involved a brief glimpse of the Bears' upstairs bedroom.

"Preceding the action, we introduced the locale in an overall shot of the living room, with Papa Bear standing beside his chair; then, following a semi-

(Continued on Page 307)
Get more movies for your money with finer Ansco Hypan!

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The Kodak Cine Photoguide includes a unique dial-type calculator that shows how to organize a movie story so that pictures will have professional-like continuity. Other pages contain vital technical information, tables and additional calculators for exposure, etc.

Want To Step Up In Class With Your Movies?

Eastman Kodak’s new Cine Photoguide places all vital technical data at your fingertips, tells how to organize your movies for continuity.

By JOHN FORBES

The reason consistent good results come easy to the professional cinematographer is, that working almost daily with his camera, he becomes accustomed to its operation and to all the necessary photographic procedures. Judging exposure, setting focus and diaphragm stop, and selecting the best picture compositions come naturally to him.

With the average amateur, use of the camera is more or less periodic; he rarely shoots movies long enough at a time, nor often enough, to develop a “feel” for the technique. With many it is necessary to take a meter reading for every shot; double check focus and lens settings; and all too often preoccupation with such details robs the cine amateur of time that could more profitably be devoted to improving pictorial composition or organizing his movie story so that pictures have real impact on the screen. Thus, with movie making only a part-time activity, the amateur who would turn out prize-winning movies needs a dependable source of quick answers to his many problems—problems that become vitally important to the success of his pictures, once he gets his camera set up and ready to shoot.

Eastman Kodak Company has been the first to recognize the need of the movie amateur in this respect and has come to his assistance in a most practical way with the Kodak Cine Photoguide—a fine little handbook of vest-pocket size, expertly prepared, which is destined to make amateur movies a more pleasurable and successful hobby for more cinebugs.

Generally, the new guide is much the same in size and format as the Master Kodaguide for still picture-making recently published by the company. In other words, it’s a 4 x 3½-inch, ring bound, group of well-indexed data cards which provide capsuledd information on every subject home movie makers should have at their fingertips. Its prime purpose is to help even the veriest amateur make better and more interesting home movies in the easiest possible manner with the least fuss and bother.

To achieve this, the Photoguide is divided into three sections—exposure, story and lenses.

Both usual and unusual lighting conditions—indoors and out—are reviewed in the section on exposure. Two dial-type exposure calculators, one for daylight and one for indoor movie making, are a part of this handy booklet—attached to the sturdy ring-binding so they never become misplaced. These, with easy-to-read charts make this a section that takes a fairly complex subject and makes it easy to understand and apply.

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As stated in the book: “Good exposure is essential for good movies. Should you use a guide, a meter, or... (Continued on Page 312)
If Your Film Needs Narration...

If you have a film which is all set to go—edited and ready for titling, but you decide that a spoken commentary will tell the story better than long explanatory titles, don’t blush and stammer and finally blurt out that someone else had better speak the lines for you. It’s easy. Step right up to the microphone yourself and, in your best pears-shaped tones, deliver that old load of yumph right into the ears of your audience.

After all, the commentary is as personalized as the film itself and if you allow someone else to take over, you are shirking part of your responsibility as story-teller. But—and there is always a but—there are as many tricks to learn about announcing as there are in connection with the gentle art of moviemaking.

Perhaps your friends have told you that you have a good telephone voice. Well, that’s fine and it will help, but your microphone manner will be quite different from the telephone approach. Instead of yapping chattily as you would over the phone, and striking attitudes which might worry a movie audience (or bore them), it is more effective to adopt a completely relaxed, though intimate and personal, manner of speaking, just as you would in a face-to-face conversation. Many people will hear your voice, but it will seem to them that you are speaking directly. It must be this way, for you will want them to concentrate on the screen pictures and they must never feel that you are delivering a lecture to them.

The initial messages are important, for it is during their delivery that you must “sell” your voice to the audience. Unless you soothe and please them, taking care not to convey the impression that you are nervous or flustered, you will be unable to hold their interest throughout the film. Always remember that it is possible to tune a voice out completely simply by paying no attention to what is coming over the microphone. Your audience will either like or resent your voice and their decision will be made in no time flat.

It is a mistake to “elocute” formal literary phraseology or show off your vocabulary, no matter how many long words you can lay claim to. Plain speaking, short words and short sentences will be liked, and it will help to keep in mind when writing the spoken script, that well-bred people seldom go in for jaw-breakers. They don’t need to because their culture is evident in their manner of speaking, and that’s the way it must be when you deliver your spoken commentary.

Imagination plays a very important part in such proceedings, and you must visualize your listener, (note the singular), as sitting opposite you. If you do, you will want to talk to him, just as you would in normal conversation. You will not shout if you expect him to like you. You will not yap like a parrot, unless you want him to resent what you have to say. No, there are two things you want—you want him to believe and like you, and you can accomplish your purpose by being friendly, intimate, and above all, normal in every way.

Put meaning into the words which you speak, but don’t try to “dress up” a lot of barren screen footage with values which fail to reveal themselves on the screen. If all you show on the screen is a long shot of a man walking along a street, don’t say “—and here we find our hero, after having been to church on this bright Sunday morning, walking slowly home, meditating on the potent words of a well delivered sermon, and looking forward to a quiet perusal of some Sunday periodicals.” This is all tripe and everyone will know it.

Try not to sound as if you are reading. If you make a mistake or stutter, go right on without trying to correct the error. Alright now—you’re on! Here is the mike and the sound engineer has already taken a voice level. The first thing you do is RELAX. Relax the muscles of your mouth and jaw. For goodness sake, don’t tighten your mouth. All set? Fine. Steady now, go right ahead and speak. You will find that the words will click clearly away from your tongue and lips—and your voice will not rise to a screaming pitch because you are so very relaxed about all this. The microphone is so sensitive that it will deliver every soft-spoken word. So, easy does it.

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NEW TV FILMING METHOD

(Continued from Page 299)

master sound record from then on.

One week after the original recording sessions, the musicians and singers re-enact their roles before the television cameras while the recorded selections are played back over a loud-speaker. Perhaps readers will recognize this system as being the same as used in Hollywood studios in filming musical numbers. Probably the main advantage of it is that it's much easier for singers to give a first-rate performance musically when they're not concerned with how they look for the cameras. Also important is that having to cut the sound track every time a cut in the picture is made would result in a choppy, uneven musical score.

From the 16mm magnetic sound track, 72 r.p.m. phonograph records are cut for rehearsal purposes. The artists then practice their numbers to these records which can, unlike tape and film, be played almost anywhere. A copy of the master sound track is also made for playing on the set during filming.

The television staff on the program are from KGO-TV, San Francisco. Set design and the general visual effect are planned by Ed Smith, art director, and Bill Martin, his production designer. Sketches are made for each number, but these are considered by Bill Hollenbeck, production director, more as a guide to what can be done than a strict blueprint to follow.

The shooting stage closely resembles a motion picture set, the only difference at first glance being that television cameras are mounted on the tripods and dollies. Yet the mounts for these cameras, including a $12,000 electric Houston crane, are standard Hollywood equipment. Set aside from the shooting area on the stage floor is the control and recording table, where the images from each TV camera are monitored and edited. At the right end of the table is Bill Palmer's kinescoping equipment. He is now filming the programs in both 35mm and 16mm and uses two monitors and two cameras for the job.

Both the 35mm and 16mm cameras which Palmer uses are of his own special design and construction. They have extremely fast pull-down mechanisms and take 2000-ft. film magazines. Both cameras photograph the monitor image at 24 frames per second.

During rehearsals director Hollenbeck is generally near the cameras where he gives directions to the performers and cameramen. But the final rehearsal finds him at the control table where he can watch the action exactly as the film recording camera sees it. Any last-minute instructions to the people on the set is made via small inter-com telephone headsets which are worn by almost everyone but those in the cast. Messages to the cast are relayed by phone to the assistant director, who relays them to the cast.

Just before each take is begun, the stage manager holds a large movie-style slate before one of the TV cameras. Then Palmer switches on both his film cameras and a magnetic film phonograph to play the musical score. The slate is withdrawn and the artists before the cameras begin their roles as they hear the music. Later, the original sound tracks are matched to the processed footage.

Palmer's 16mm single-system sound camera has a variable-area sound head which records the same music which the performers hear over loudspeakers during the filming. This sound track is not used in the final prints but is left on the work prints used in editing. It also enables projecting dailies of the work in progress without having to match up a sound track in the editing rooms.

Lighting is handled by Ed Smith and technical director Warren Andresen. They work in what they call the "classic" lighting pattern: Setting the key lights first, then adding fill and back lighting. Andresen operates the control panels during takes to adjust image brightness and contrast. He is therefore in an excellent position to know the lighting needs from the view-

Sonotrack—New Sound Stripping Service

A MAGNETIC SOUND TRACK STRIPPING SERVICE for single-perforated processed Kodak 16mm film has been announced by the Eastman Kodak Company. It will be known as Kodak Sonotrack Coating. The new coating will be applied to either single-perforated Kodachrome or black-and-white Kodak Film in accordance with the standards proposed by the Society of Motion Picture and Television Engineers. The track will always be applied to the side of the film toward the projector lamp. The new coating can be applied to film taken either at sound or silent camera speeds.

Kodak Sonotrack Coating will be available in two widths, the company announced. Single-perforated 16mm films having no optical track will be Sonotrack coated the full width of the track area. Sixteen millimeter films which already have an optical sound track will be Sonotrack coated half the width of the optical track unless the owner desires that full width track be applied.

Films which are double-perforated must be duplicated on single-perforated film before the magnetic sound track can be applied. However, the company indicated that if sufficient demand for a magnetic coating service on double-perforated 16mm film develops, Kodak expects to extend Sonotrack Coating service to this type of film.

Kodak Sonotrack Coating service is available immediately and orders for such service can be accepted, Kodak announced. It is expected that the service will prove of considerable value to individuals, educators, and organizations, who wish to add sound to their silent films or vary the sound track of other films to meet specific needs. Kodak Sonotrack Service may be ordered through any Kodak dealer. The cost is in line with other similar services—$3.75 per foot.

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images to counteract the loss of high-light detail in TV pickup tubes. Polarity of the image will be corrected in the amplifying equipment.

Standard television equipment in the United States operates at 525 lines to the picture image. Some technicians believe that when TV systems are re-designed to operate with many more lines, resulting in a more detailed picture, the procedures now being developed for “The Standard Hour” may be used for all important motion picture filming—whether for television or regular theatrical showings. The advantages of electronic cutting, filming with small apertures under low light levels, and previewing the picture on a screen as it’s filmed are too important to be overlooked by the motion picture industry. Any other system is bound to be known as “the hard way.”

FILMING A WINNER

(Continued from Page 302)

closeup of him, the action begins.

“Papa picks up his newspaper, sits down, crosses his legs and proceeds to read. Panning across the room, we show Mama Bear busy about the hearth, preparing porridge, while playing on the floor is Baby Bear.

“Each move in every shot—long, pan or closeup—was carefully detailed in the script and painstakingly rehearsed. Then we made a “dry run” with the camera on each shot before actually starting to shoot.”

Behind the camera as operator was Mrs. Fischer. Above the set, out of camera range, his hands full of strings, Joseph Fischer manipulated the tiny puppets according to script. Here proper timing was accomplished by following the narration spoken by Mrs. Fischer at the same time she operated the camera. This was essential to achieve a fair approach to synchronization with the narration that was to be recorded later.

Joseph Fischer also was the “gaffer” or lighting engineer for the production. Previously, he had designed and built and decorated the sets and props, Mrs. Fischer used her needle magic on the costumes, draperies, etc.

“We used the simplest type marionette figures,” said Joseph Fischer, “and these we made ourselves.” (Description of and instructions for constructing marionettes is too extensive to be detailed here, but interested amateurs may find this information in books on the subject in any public library, according to Fischer.) Scenes, too, are plain and simple. We made the flats of wallboard, and painted them with poster colors. An
starting to shoot. Then, settling on a costumed, and the sets constructed and action. Modeling, painting and carpentry a bedroom. After setting up the three uncluttered, background, we found, gives suggestions relating to situations and the positions of the windows reversed. The interiors. After the living room scenes were shot the fireplace section, table, chairs and stairway were removed, and poster colors. There was a functional note in the construction of the sets, too. The same backgrounds served for both interiors. After the living room scenes were shot the fireplace section, table, chairs and stairway were removed, and positions of the windows reversed. The living room curtains were replaced with white, fluffy ones more suitable to a bedroom. After setting up the three beds, the revised set was then ready for shooting the climatic scenes in which Goldilocks tries the beds, and finally falls asleep in the bed of the Baby Bear—where she is later discovered in the sloping scene of the picture.

“In the first draft of the proposed production,” said Fischer, “Mother had charge of the story material and writing the script. I contributed occasional suggestions relating to situations and the action. Modeling, painting and carpentry and the construction of figures and sets were in my department, also.”

After the shooting script had been prepared, the four puppets built and costumed, and the sets constructed and dressed, shooting of the picture began. “We found after our initial experiences,” said Fischer, “that the surest way for us to work was to take the puppets entirely through a scene in rehearsal before starting to shoot. Then, settling on a particular sequence, we decided on the length of time it was to run, set the lights, reloaded the camera and started shooting.”

The picture was filmed on Type A Kodachrome with photoflood lamps for illumination. An exposure meter was never used for calculating exposures because the Fischers as yet did not own one. But they followed the data on the tiny exposure card that comes with each roll of Kodachrome, and came through with remarkable consistent results. It was the quality of the photography as much as the imaginative editing of the picture that won an Honorable Mention award for its makers.

The Fischer’s shooting stage was their garage. Here Joseph had erected a suitable stage on which to erect the sets, and scaffolding overhead from which he manipulated the puppets.

As the deadline for American Cinematographer’s 1951 amateur motion picture competition approached, the Fischers found time getting short. They now worked night and day, shooting then editing the picture. And then there were some retakes, too.

“As each roll of film was returned from the processing laboratory,” said Fischer, “we ran it through the projector and made a note of the best takes. Later, the same film was examined more closely in the viewer-editor and the various takes marked for cutting. For safety, we made no cuts whatever until we decided where each take was to go in the finished film.

“To speed up the editing process, we stretched a wire across our workroom, fastened narrow strips of soft cloth over it to protect the film, then as the sections of film were cut from each roll, they were clipped to the wire together with a slip of paper bearing a description of the scene contents.

“It was a frantic race to get the film done in time for the competition; and although we were reluctant to enter it without completing it with recorded narration, we are glad it finished in the circle of Honorable Mention winners, at least. We shall now proceed with the narration, and this undoubtedly will be recorded on film and combined with the original print for sound-on-film presentation.

Veteran Camera Re-activated

In such scenes, the use of the gelatine filters previously mentioned played an important part in the lighting. Earlier. Stradling had established a lighting color key for the different scenes—blue for most of the day scenes; green for night scenes, and a delicate soft blue for those scenes that were to have the illusion of having been filmed underwater. More than a hundred inkyes were employed in lighting the large set for the “Mermaid Ballet.” Each lamp was covered with a special blue filter gel, as shooting progressed, Stradling checked every lamp constantly in order to keep the filters uniform in color. When a filter began to fade from the intense light and heat, Stradling would order his “filter technicians” to replace it. Seldom has a Technicolor production required such vigilance of set lighting on the part of the cinematographer.

Stradling enjoyed one advantage in shooting this picture rarely enjoyed by major studio cameramen. He was able to shoot tests in color in advance and screen them before proceeding to shoot.

Will Rogers, Jr. (on horseback) plays his famous father in an early Hollywood scene from the Warner Bros. production “The Story of Will Rogers” (color by Technicolor). A note of authenticity is lent by the Bell & Howell hand crank movie camera (right), first used by Warner Bros. in 1918. According to studio veterans, this camera filmed most of “My Four Years In Germany,” the first major picture made by Warners 34 years ago. It has remained part of the camera department equipment ever since.
When making a picture, producer Goldwyn has little regard for time or money. He never starts a project until he is convinced he has found the best possible solution. It was therefore natural that he should want his cameraman to be sure before starting to shoot. For this precautionary measure, Goldwyn gladly spent $20,000 for color tests. But it more than paid off in superior quality of the photography.

Watching Stradling work on the set reminds one of a grasshopper on a hot stove lid. You’ll never see a canvas chair with Stradling’s name on it on the set. He never has time to sit in one. Nor is he the nervous type. Coolly, he surveys his lamps constantly, walks quietly to an assistant to give instructions, then is back again beside his camera for a final survey of the scene before giving the word to “roll.” If a lamp’s filter starts to fade, Stradling will come to the rescue with a new filter if necessary and make the change himself. So quietly does he work that the only voice one hears on the set is that of the director or his assistant.

Stradling, who came to Goldwyn from MGM two years ago to fill the director of photography post vacated through the death of Gregg Toland, narrowly missed an Academy Award this year for his photography of “A Street Car Named Desire”—still considered by most cinematographers one of the most outstanding jobs of black-and-white photography to come out of Hollywood in a long time. Now with this lavish Technicolor production to his credit, Harry Stradling is a safe bet for nomination if not an Oscar in the 1952 awards.

STEREO MOVIES
(Continued from Page 295)

composed of an assembly of concave, spherical mirrors forming together one single mirror. (The joining of the individual mirrors is so close as not to reveal the segmentation at a distance, so that the mirror screen appears as a single unit.)

3) An intermediate screen (E in Fig. 2), which is in fact the real screen on which projection takes place—an ordinary screen whose images the audience sees only indirectly by reflection from the mirror screen.

4) The projector (L in Fig. 2), which serves to project the pictures of the stereoscopic pairs.

5) A plurality of small mirrors (as shown at R in Fig. 2).

“The function of each of these elements,” Dodin said, is as follows: The eyes see; the projector projects; the in-

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July, 1952 • AMERICAN CINEMATOGRAPHER • 309
...has a wide readership in the 16mm Film Industry

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AMERICAN CINEMATOGRAPHER
The American Society of Cinematographer’s Magazine of Motion Picture Photography

B&H Soundstriping Available In Hollywood

The expansion of Bell & Howell’s magnetic film striping service to its Hollywood plant was announced July 1st by Carl Schreyer, Vice-President in Charge of Merchandising. The company’s Soundstripe process prepares 16mm film for magnetic sound recording.

The extension of this service to the Hollywood plant will speed service to West Coast users of Soundstripe film, as well as increase total production to meet the growing demand by users of magnetic recording projectors, Schreyer said. Previously this service was available only from the company’s main Chicago plant.

The cost of Soundstripe to movie makers is $31.25 per film foot for either full or half track. Film may be mailed to Bell & Howell at 716 North LaBrea, Hollywood or 7100 McCormick Road, Chicago.

The company’s Soundstripe method of applying a magnetic coating to film was introduced February 25th of this year at the same time its Filmsound 202 optical-magnetic recording projector was announced. Single perforated 16mm film, striped after processing, is then ready for the recording of a magnetic sound track. Voice and music are added as the film is projected on the screen. The new system of recording sound on film is economical and requires no special equipment other than a magnetic recording projector.

The American Society of Cinematographer’s has a wide circulation within the industry. It offers a service to offer makers of important announcements of new equipment, services and moviemaking accessories.

Most readers watch the advertising columns of American Cinematographer for important announcements of new equipment, services and moviemaking accessories. American Cinematographer is the most widely-read billboard in the movie industry. If you have a product to sell, or a service to offer makers of motion picture films, A.C. will get you more results, quicker, than any other publication circulating within the industry.

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curving of the small mirror in the system. A curve similar to that of the principle mirror-screen is quite suitable.

"The directive mirrors controlling the view of the real images towards the secondary screen are shown at R, R', R", R", etc., in Fig. 2. These inclined mirrors are each surrounded by a rotating cylinder perforated to perform exactly as with shuttered spectacles, giving the correct picture aspect from each stereo pair of pictures.

"So far, I have discussed only one eye viewpoint of the spectator. Let us now see where the other eye comes in. The spherical screen will form an image of it which will come at the side of the first. This second image is treated as the first, by placing over it a second small mirror, identical to the other. Thus, the conditions that apply to the second eye-viewpoint apply also for the positions of all the other viewers in the theatre, one beside the other, in the same order, with the same success.

In choosing between the two workable methods — prisms or mirror, or shuttered devices — my preference is for the shuttered process, because it requires only one screen, whereas deflecting the beam would demand two; and besides being more difficult to install, would also introduce serious problems of distortion. Possibly the deflecting process would be simpler, since a simple varia-
tion of the inclination of the mirrors would enable each eye to be directed on the appropriate screen. It should be noted that if our natural eyes cannot 'squint' up and down, nothing prevents this artificial strabismus in the case of the eyes-real-image. Here it is not convenience so much that we must seek as efficiency.

"The motion picture industry is fast approaching the goal of the Complete Cinema. We have pictures in motion, with sound, and more lately, in color. All that remains is movies in relief or third-dimension."

With Dodin's system, cost of production of stereofilms will be little changed from that of conventional films. It is the exhibitor on whom will fall the burden of expense for the installation of the special screen and projection facilities; but if the problem of spectacles for viewers is the chief obstacle in the path of practical theatre exhibition of 3-dimension films, then it would seem that the exhibitor will ultimately go along with the change, as he did with the advent of talking pictures.

**STEP UP IN CLASS**

(Continued from Page 304)

your own judgment? There are times when each is best. The computers and information in this guide will help you approach the problem under a wide variety of lighting conditions and subject situations."

Perhaps the most interesting page in this section is that devoted to exposure of unusual subjects outdoors. Here the amateur finds the correct exposure to use when shooting such subjects as rainbows, beach and snow scenes, rainstorms and blizzards, waterfalls or big waves, night fireworks, neon and other electrical signs, and campfires. These are subjects which invariably stump every cine amateur until he has found the answer by trial and error. Now, the extravagance of trial and error procedure is no longer necessary. The right answers are in the Kodak Cine Photoguide.

Other pages give concise, fool-proof data on lighting movies indoors; indoor lighting for black-and-white film; exposure for unusual subjects indoors; film and filter data; and exposure indexes for Cine Kodak film.

For the first time perhaps pointers for making movies interesting have been carefully prepared and included in a handbook. It is the first time also that a dial-type guide has been supplied the amateur that shows at a glance just how to organize a movie story, Kodak's remarkable Movie Organizer dial comprises page 19 in the booklet and makes it easy for the amateur to "edit" his movies in the camera as he shoots.

Variety is an essential ingredient in interesting movies, the booklet points out. It is actually a by-product of making each of your shots with a specific purpose in mind. It can be increased by changing your viewing angle. Basic movie shots, it is pointed out, are like a newspaper reporter's first questions: "Who, What, Where?"

The Kodak Home Movie Organizer provides a simple formula for the amateur's first organized movies. It can be used profitably by both seasoned and beginning amateurs to make scenarios; it can be consulted before making each shot.

This Movie Organizer has to be seen to be appreciated, but the reader may be able to visualize it—and estimate its usefulness—by thinking of a typical Kodaguide dial-type calculator. At the top are listed the basic movie and interest-building shots which, in effect, say that this is where things are happening, this is what is taking place, this is who is involved, this is why this occurred, and this is what has been happening meanwhile.

By setting the Kodak Movie Organizer dial pointer at any one of these settings, you can see at a glance, the length of time such a scene should ordinarily run and how far you should stand from your subject. You can also read from the organizer the gist of what such a shot would show. The procedure is clearly explained and illustrated by photos on the facing page.

The final section—about lenses—is intended to help the more advanced home movie maker. This provides data on such subjects as interchangeable lenses and the field they cover; a depth-of-field computer; how to make extreme

**Briefing In Cinema Optics**

CARL L. BAUSCH, vice-president in charge of engineering and development at Bausch & Lomb Optical Co., Rochester, N.Y., explains workings of the famous Baltar lens to movie stars Ann Gwynn (left), Sterling Hayden, and Vera Ellen.

Three Hollywood stars touring the country with the Movietime USA Caravan got a first-hand glimpse of the company which has played an important role in the growth of the movie industry.

Vera-Ellen, dancing star of Metro-Goldwyn-Mayer studios, Sterling Hayden, leading man of Paramount Pictures, and Anne Gwynn, red-headed star of Monogram-Alley Artists, visited the Bausch & Lomb Optical Co., in Rochester, N.Y., recently as part of their tour on behalf of the Golden Jubilee celebration of the movie industry.

The popular screenland trio examined the famous Baltar lenses which are used to film 85 per cent of Hollywood movies. The Super Cinephor projection lenses which are used in leading movie houses across the country, and the optical sound systems with which professional projectors are equipped.
close-ups and close-up view-finding; close-up field sizes for 8mm and 16mm cameras with various lenses; data on Portra Lenses for extreme close-ups; information on the use of the Kodak Pola-Screen and filters; and an effective aperture computer.

The final contribution the Kodak Cine Photoguide makes to better movie making is to provide a check-list of points to remember if you want to produce the best possible movies. This contains such down-to-earth advice to filmers as: "get action in your films," "think 'story' not pictures," "have a reason for each shot," "panoram sparingly," and "break-up long actions."

You can get your copy of the new Kodak Cine Photoguide from any Kodak dealer. Price is $1.75 per copy.

FILTERS

(Continued from Page 296)

requires changing the established lens aperture, opening it up to compensate for the light absorbed by the filter. How much to open the lens in each case is knowledge which every cameraman must possess or have ready access to; for convenience, this information is set down in charts or tables in handbooks for most of the commonly used filters. As a key to arriving at the exposure differential when a filter is used, filter factors have been established for most all popular filters.

As filters must absorb part of the light if they are to be useful, it is usually necessary to take this into account and compensate for it by a corresponding increase in exposure. The number by which the exposure must be multiplied in order to do this is the filter factor. Manufacturers supply these with their filters, and their values are sufficiently accurate for all ordinary purposes. In color work, however, they may need correction. The factor depends not only on the transmission of the filter itself, but also upon the color sensitivity of the film that is to be used and the spectral quality of the light. These factors may be determined under the precise conditions required by photographing a gray scale both with and without the filter. The ratio of the exposures required to make these match step by step will be the filter factor.¹

In black-and-white photography, filters are commonly used to obtain the greatest contrast between subject and background. It is therefore necessary for the cameraman to know which filters will lighten or darken certain colors. The most commonly used filters have names or numbers to identify

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July, 1952 • AMERICAN CINEMATOGRAPHER • 313
them, such as "Aero 1" or "15" or "23-A," etc. To the professional cinematographer such reference numbers readily identify the filters and indicate the type of correction they give.

Yellow filters include Aero-1 (light yellow), Aero-2, and 12-minus Blue-yellow. This series is useful mostly for eliminating haze, putting slight emphasis on clouds, and to produce medium contrast. In addition there is the 15-G deep yellow filter which gives full color correction with pan films, and is mostly used for open landscapes.

Orange filters include the No. 21 and the 23-A orange-red. The first gives light over-correction for all types of pan films, and is good for mountain and aerial work. Like the yellow series, these filters also penetrate haze.

Red Filters are for heavy over-correction — deep blue-black skies and fleecy clouds, etc., and are sometimes used with infra-red films. The 25-A is used to create dramatic night effects in daylight. The 29-F deep red filter gives extreme over-correction and is used for full night effects in strong sunlight with pan film.

In the blue filter series are the 35-D (magenta), the 47-C5, and the 49-C4. The first is a contrast filter, moderately stable, and transmitting both red and blue. The 47-C5 is generally used with ortho films to increase blue contrast, also in combination with other filters for special rendition of color with color films. The last named is an experimental tri-color filter, generally used as a viewing filter for arc and daylight illumination.

Green filters include the X-1, X-2, 56-B3, and 58-B2. These filters generally impart a slight to strong softening effect and good correction for all types of panchromatic films.

Yellow filters consist of the 3-N5 (yellow-green) and the 5-N5 (yellow-green). The first is a combination of Aero-1 and 50% neutral density, offering slight color correction for landscapes, street scenes, etc. The latter is a combination Aero-2 and 50% ND, gives normal color correction for snow and beach scenes, and pleasing values in normal open water scenes.

Extreme over-correction and contrast in all blue and green colors, such as sky and foliage is accomplished with use of the No. 70 and 72 deep red filters. These are used for heavy night effects in strong sunlight, aerial shots, etc. The neutral density filters are available in five contrasts 25%, 50%, 75%, 100% and 200%. Neutral density filters are neutral in their action on all colors. They provide means of reducing light transmission through the lens, necessitating opening the diaphragm, and this results in some softening effect similar in action to neutralizing contrast.

There are a number of special filters for use with various color films, many of which are as yet uncatalogued. Except for Ansco Color, and the new Warnercolor process, and those filters which are used with Technicolor Monopack film, the only other important color-film filters which the cinematographer will have occasion to use are those established for 16mm Kodachrome and Ansco Color films. These films are now being widely used in the production of industrial and television films, and in the photography of travel films intended for blow-up to 35mm for theatre release.

Daylight Type Kodachrome film is balanced for exposure in sunlight, plus sky-light. For bluish light conditions, and scenes taken in shade under a clear sky, a Kodachrome Haze filter is recommended with no increase in exposure. Color rendering can be made warmer with this filter by the use of the Kodak CC14 or CC15 filters. The first requires an exposure increase of 1/4 to 1/2 stop; the latter, from 1/2 to 1/4 stop increase.

Kodachrome Type A film for artificial light can also be used with daylight illumination by using a Kodachrome Type A filter for daylight.

Anso Color daylight film has approximately the same color balance as Kodachrome Daylight Type. Used in the same light conditions as described above for Kodachrome Daylight film, the Anso Color UV-16 filter is recommended. The Anso Color UV-17 and UV-18 correspond to the Kodak CC14 and CC15, and may be used under similar conditions with Anso Color.

In the case of those studios using 35mm Anso Color films and of Warners, with its new Warnercolor film, special filters have been designed for these color emulsions. Experiments are continuing in an effort to arrive at still better filters, and in each case the studio recommends and provides the cameraman with the filters necessary for use with the respective color films for the given exposure condition.

Because filters are used in making photographed in daylight or equivalent illumination.

Filters continue to be made in two types — glass with the color ground in or sandwiched between two discs or squares of optical glass, or in gelatin sheets or squares.

Gelatin filters are extremely fragile and must be handled with utmost care; they should be kept flat and dry when not in use and away from heat or direct sunlight.

Glass cemented filters should be treated with the same care and handling as a fine lens. They should never be washed with water. When cleaning is necessary, a soft cloth moistened with lens cleaning fluid should be used. In no case should the fluid contact the cemented edge of the filter. If not protected from heat and dampness, cemented filters will swell and separate.

To summarize, filters do not add to the colors that pass through them in

<table>
<thead>
<tr>
<th>SUBJECT COLOR</th>
<th>TO MAKE LIGHTER</th>
<th>TO MAKE DARKER</th>
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<tr>
<td>BLUE</td>
<td>47-C5</td>
<td>15G, 21, 23A, 25A, 29F</td>
</tr>
<tr>
<td>BLUE-GREEN</td>
<td>47-C5, X2, 56B</td>
<td>23A, 25A, 29F</td>
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<tr>
<td>YELLOW</td>
<td>15G, 21, 23A, 25A, 58B</td>
<td>47-C5</td>
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<td>ORANGE</td>
<td>15G, 21, 23A, 25A</td>
<td>47-C5</td>
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<td>PURPLE</td>
<td>147-C5, 35D, 56B</td>
<td>56B</td>
</tr>
<tr>
<td>PINK</td>
<td>35D, 23A, 29F</td>
<td>56B, 47-C5</td>
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SHOWING filters to use to make colors lighter or darker.
any way. Instead, they absorb some and transmit the rest. Filters make it possible to photograph only selective parts of the spectrum. Often the purpose for filters is to render tones of colored objects as they appear to the eye. At other times, the purpose is to increase contrast. And finally, with ND filters, to reduce the amount rather than the quality of the light passing through the lens to the film. In any case, the object is to improve the pictorial rendering of scenes, and for this a complete knowledge of filter lore is essential.

1 An Introduction To The Science Of Photography, by Katherine Chamberlain. (MacMillan)
2 American Cinematographer Handbook, by Jackson J. Rose.

KANGAROO

(Continued from Page 293)

street scenes were filmed in this same way.

By sending the electrical crew ahead to string cables and place the lamps for the scenes that were to be filmed in the evening, we would shoot day scenes in other locations to make up a full day’s shooting schedule. Meanwhile, our prop man was buying or renting furniture in Adelaide for use in the distant ranch house location. When we had finished shooting in Sydney, trucks were hired to transport our equipment some 1200 miles across the country to Port Augusta. Because of the great distance and the condition of the roads, this involved a week of travel. We eventually moved into our new housing project which immediately became known as “Zanuckville.”

With most of the interiors out of the way, we were now to begin shooting the vast number of exteriors on the ranch location. Here, it seemed to me, the general treatment of “Kangaroo” indicated a straightforward documentary style. My aim was to present the natural settings as realistically as possible, and to recreate those specially staged without the use of “arty” embellishments.

While color film has a tendency to glamorize nature, nevertheless it can be used as a powerful means to delineate some of its more primitive aspects. Thus, when we discovered that dust was to be with us whenever the earth’s surface was touched, we deliberately made use of its pictorial aspect; in shooting scenes of the animal herds we frequently chose camera angles to take advantage of the dust effects rather than for the direction of the light.

This brings to mind that when laying

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out the camera setups with relation to the light. I had to reverse the plan used in the northern hemisphere. Here we were about 33 degrees south of the Equator, and at mid-day the sun is in the north. As location sites were selected long before construction was started, I used a compass in order to be certain the angles chosen would permit us the maximum hours of daylight for photography.

We had a "night camp" sequence to be filmed in the open country. Ordinarily for economic reasons as well as others, I shoot this type of scene when overcast weather precludes filming normal day scenes. In this way we lose no shooting time, and the reduced daylight enables camp or lamp light effects to photograph more realistically. However this time we were in for it. The weather would bank in, but before we could get the camp set up it would clear or get so dark, balancing was impossible. As a result, scenes for the night camp sequence in the picture were photographed at various times and after many attempts over a period of two months, and in four separate locations! To this day if some joker tells you "night camp!" terror strikes my heart.

The windmill sequence was staged on gusty days, for we were short on wind machines. A tall tower had been built for the long shots and a very short one for the close-up action that transpired on the top of the tower. Here the hand held Eclair Camerette camera became invaluable. Lying on the ground, I shot almost straight up to obtain the illusion of height and enhance the aspect of danger. For most of the production we used the Twentieth Century camera whenever sound was used. Mitchell were used at other times, especially on the stampede scenes. Because of the terrific dust, these cameras took an awful beating. It was a wise provision that we brought along a camera maintenance mechanic who cleaned and checked the cameras each night. In my many years of cinematographic experience, this location put the cameras to the most severe tests that I have ever known. That no scenes were lost due to camera failure or negative defects speaks well for the equipment. The film was developed at various times and after many attempts over a period of two months, and in four separate locations! To this day if some joker tells you "night camp!" terror strikes my heart.

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An unusual natural condition of the country frequently gives clouds a distinctive hue. The vast desert area is very accommodating to see that I received as prompt service as possible. Anticipating that our interior scenes would be taken in natural locations, with the vistas seen through the windows and doors, we had brought along some plastic filter materials to bring the natural daylight into photographic balance with the interiors. These Plexiglass sheets having a transmission factor of about 46%, were purchased in a neutral grey color. By using a light blue filter in combination with the neutral densities I could approximate what is accepted for a night exterior illusion. These large sheets of filter material were placed over the windows on the outside, and we used them over and over again. My only criticism of this material is that it comes with a paper covering adhering to both surfaces similar to old fashioned fly-paper. This can be peeled off, but we found that the adhesive was a natural attraction for the fine dust that was ever about, and we couldn’t find a solvent for removing it without scratching the plastic. The densities therefore became more dense! Using these and other similar expedients enabled us to obtain the most realistic photography for "Kangaroo," and did much to give the film authenticity.

While kangaroos have little to do with the story, no film about Australia is complete without one. They are Australia. We did have some amusing experiences in getting the scenes with them that we did. Kangaroos are very timid animals and when wild, scatter in all directions at the sound or scent of man. Our management kept in touch with local station owners and many were helped in reporting promptly when bands would come in for water. Huge corrals were erected to trap them and...
my camera crew, under Lou Kunkle the operator, would take off to photograph them. Most outlying stations had at least one pet kangaroo about the place, enabling us to borrow a few for the porch scenes.

I found the many strange animals of this exotic country the highlight of the trip. The lovable koala bears and childlike wombats make everyone want to possess one. The bizarre reptiles and fantastic birds are things out of the prehistoric past. The shy kangaroo and his various cousins of different sizes (there is even a tree climbing species) are found only in this mystic land. The unbelievable platypus and spiny ant eater are so fantastic they challenge one’s credibility.

The fairyland that lies in the shoals of the Great Barrier Reef is of another world. Unfortunately there was no place for the latter in our film. We did manage to work in some of the aborigines—those strange human relics of the stone age. What an odd race! Spindly and slight, they can traverse hundreds of miles of the most desolate country that mind can conjure. Somehow they manage to live successfully in that part of the country no one else wants. With permission of the Government, a small band of these people was brought to our location to stage their tribal “Rain Corroboree.” They camped in the trees near the location, and we furnished their food. They soon got so fat that we had to move up their shooting schedule. Their language sounds like one that Biblical tribes must have conversed in. We found them lovable, and when treated like children, responsive to our requirements. Though chocolate colored and hairy, their children are blonds when born. They like English pipe tobacco.

Photographing “Kangaroo” was indeed an experience of a lifetime. If this picture brings to world audiences some understanding of strange Australia, that fabulous land “down under,” then our work in making it will not have been in vain.

**TV Film Processing For Conventions**

As a special service for television stations and news services planning to make 16mm movies as part of their television coverage of the Republican and Democratic conventions in Chicago, the Eastman Kodak Company will provide rapid processing facilities for 16mm Eastman film at its Chicago processing laboratory, 1712 Prairie Ave.

To give priority to such films, the lab will remain open over the weekends. There will be no extra charge for the special service during the conventions.
Allied Artists
- William Sicken, "Down Periscope," (Lindsay Parsons Prod.) with Mark Stevens, Bill Williams, Dorothy Malone. Lew Landers, director.
- Charles Lawton, "All Ashore," (Technicolor) with Mickey Rooney, Jody Lawrence, Robert Newton, Robert Mitchum, director.
- Hal Mohr, "The Member Of The Wedding," (The Kramer Co.) with Ethel Waters, Julie Harris, Brandon de Wilde. Fred Zinneman, director.
- Charles Lang, "Shane — The Dance of the Seven Veils," (Beckworth Prod.) with Richard Widmark, Anthony Quinn, director.

Columbia

Metro-Goldwyn-Mayer

Monogram

Paramount

American Society of Cinematographers
FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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Frank Planer, "Roman Holiday," (Shooting in Rome, Italy), with Gregory Peck, Audrey Hepburn, and Eddie Albert. William Wyler, producer-director.
Ray Rennahan, "Pony Express," (Technicolor) with Charlton Heston, Rhonda Fleming, Jan Sterling, Forrest Tucker, Jerry Hopper, director.

RKO

20th Century-Fox
- Leon Shamroy, "Tonight We Sing," (Technicolor) with Ezio Pinza, Roberta Peters, Tamara Toumanova, Mitchel Leisen, director.

Universal-International
- Winton Hoch, "Cattle Kate," (Technicolor) with Maureen O'Hara, Alex Nicol, Jeanne Cooper. Lee Sholem, director.
- Charles Boyle, "Roughshod," (Technicolor), with Audie Murphy, Susan Cabot, Paul Kelly. Nathan Juran, director.

Warner Brothers
- Robert Burks, "The Desert Song," (Technicolor) with Kathryn Grayson, Gordon MacRae, Raymond Massey. Bruce Humberstone, director.

Independent

NOTE: Names of A.S.C. Directors of Photography who were engaged in the photography of films for television last month will be found in the "Television Production column" on page 299.
CARBON ARCS FOR MOVIE SET LIGHTING
(Continued from Page 294)

Characteristically, only a small portion of the lamp lens surface is effective in illuminating a single area in the beam when the lamp is adjusted for wide beam spreads; but when the lamp is set for narrow beam spreads, a larger portion of the lens surface becomes luminous. It follows, therefore, that when the lamp is adjusted for full flood, the shadows of objects placed at the same distance from the lamps will be sharper than when the lamp is adjusted for minimum spot.

The effective horizontal dimensions of the sources for the extremes of beam spread for each lamp were measured, as shown in Fig. 1 last month. These were determined both visually and by recording the intensity across the shadow of an opaque straight edge. Photometrically, effective source sizes were based upon the width of shadow between the points at which the light intensity was 10% and 90% of the unshadowed intensity.

The source sizes so determined were found to be smaller than those visually observed (Fig. 1, May issue) and are believed to be a better measure of shadow sharpness. The edges of the luminous spot on the lens surface are not sharply defined, the light tapering downward over a band width which is difficult to define with the eye alone.

Thus, although the entire area of the Fresnel lens appears visually luminous at minimum spot, much of the outer surface area is of relatively low brightness and is essentially ineffective in contributing to shadow formation.

With the 150 foot-candle balanced arc, the arc lamps produce up to 55% sharper shadows than the inkyes (larger source sizes). With or without the gelatin filter combination on the arcs, the luminous efficiency of carbon arc lamps is approximately 50% lower in visual candlepower, but correspondingly reduced the total radiant energy, so that there was only a 10 to 20% loss in luminous efficiency. This filter combination is the one presently used with Carbon arcs and 335° K. film.

Inky tungsten lamps used for studio lighting are reported to have a luminous efficiency of 35-30 lumens per watt. With or without the gelatin filter combination on the arcs, the luminous efficiency of carbon arc lamps is thus at least twice that with tungsten to give half the heat for the same light intensity. This explains the much greater coolness conventionally associated with carbon arc light, and indicates that this advantage is maintained with the gelatin filter combinations and the new color films.

It is interesting to note that the carbon arc lamp approaches the sun in luminous efficiency as well as in color quality, the solar efficiency being approximately 100 lumens per watt.

The small source size, high brightness and high unit power of the carbon arcs make possible their outstanding superiority in penetrating power, covering power and shadow sharpness, compared to other available light sources. The daylight quality of the light is responsible for the coolness of the radiation and permits ready interchangeability with daylight in color photography.

The foregoing article is reprinted by permission from the December, 1951, issue of "International Projectionist."—eaxon

Telescopic Spotlight For Filming Dances

To enhance the photography of intricate dance routines, director of photography Arthur Arling, A.S.C., is using a newly perfected telescopic fill-in spotlight in shooting Betty Grable’s big production numbers in 20th Century-Fox’s "The Farmer Takes a Wife."

The new lamp, designed by the Fox electrical department, focuses high-intensity illumination in a concentrated spot of varying diameters exactly where needed with a minimum of adjustment. Lamp gives additional scope and power to carbon arcs for special set lighting problems.
WHAT'S NEW
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Zoom Type Finder—Camera Equipment Company, 1600 Broadway, New York, N.Y., announces a new zoom type finder for the Eastman Cine-Kodak Special Models I and II. Finder will zoom from 15mm field to 152mm. A parallax compensating peep-sight eyepiece is incorporated into the viewing end of the tube, with parallax positions calibrated.

When using the 15mm field, the front element adaptor lens is removed from the finder; but for all other lens fields from 25mm to 152mm, the front element lens adaptor remains in regular position on the tube.

Brackets for mounting the finder on door of either the 100-ft. or 200-ft. magazines are supplied with unit, as is a template for mounting the brackets.

An additional feature is a traveling or sliding mat which does away with the need for inserting individual mats for each lens used on the camera.

Price of the zoom type finder is $75.00 FOB New York City.

Reflex Finder Magnifier—Par Products Corp., 926 No. Citrus Ave., Hollywood 38, Calif., offers a reflex finder magnifier for the Eastman Cine-Kodak Special camera with the following features:

- Dual-power—7x for composing, 15x for critical focusing; offset to allow use of either 100-, 200-, or 400-foot film magazine; magnifier may be used as handle for carrying camera without affecting its accuracy; image is erect and corrected from right to left and variable magnification 5x to 20x at small additional charge.

The magnifier is rigidly attached to the camera, although easily and quickly removable.

For further data and price, write direct to manufacturer.

Spectra Brightness Spot Meter—Photo Research Corp., 127 West Alameda Ave., Burbank, Calif., announces the new Spectra Brightness Spot Meter designed to measure the brightness of a very small area at any distance from four feet to infinity.

Instrument, employing vacuum photocell, amplifier and microameter, gives readings with infinite accuracy, and is completely independent of the variable sensitivity of the observer's eye. Any user will obtain the same reading of a given area.

The Spectra Brightness Spotmeter is recommended for use in set lighting for motion pictures and television and as an aid for illumination engineers.

Sync Recording With Any Tape Recorder—Rangertone, Inc., 73 Winthrop St., New-ark 4, N.J., will convert any professional or semi-professional 1/4-inch magnetic tape recorder to produce lip-sync sound recordings. The system uses a special 60-cycle signal which is recorded in such a manner that it is inaudible to the norm.

(Continued on Page 322)
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CINE-SPECIAL II OUTFIT, f/1.4, wide angle con

AUTOMATIC VOLTAGE STABILIZER, complete with footswitch,

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WHAT'S NEW

(Continued from Page 320)

mal reproducing head. On playback, this signal is used to compensate for speed errors due to tape stretch and slipping.

Automatic Positive Control From camera to screen is offered in the excellent line of motion picture production equipment offered by Houston-Fearless Corp., Los Angeles. Motion picture producers, laboratories, and television film companies are invited by the company to write for complete information on Houston-Fearless film developing machines, color printers, friction heads, color developers, camera dollies and tripods, camera cranes, and film printers.

Also, company specializes in the design and construction of such equipment to meet specific needs.

Write the company at 11809 West Olympic Blvd., Los Angeles 64, Calif.

BULLETIN BOARD

(Continued from Page 282)

program for his photography of “I Want You,” photographed on DuPont motion picture film.

ROLF G. JOAQUIN, Argentina film producer and equipment manufacturer is in Hollywood surveying motion picture production methods, and seeking television markets for his South American films.

RAY RENNAHAN, A.S.C., celebrated his 35th year as a director of photography and 30th year as a color cinematographer with his assignment last month as Technicolor cameraman on Nat Holt’s “Pony Express for Paramount Pictures.”

TV FILM PRODUCTION

(Continued from Page 299)

studio’s contractees, except Rita Hayworth, are available for roles in the Ford series.”

Other major studios, watching the rapidly changing TV film picture in Hollywood, have announced no definite plans or commitments, but undoubtedly have definite plans in the making.

Twentieth Century-Fox’s Darryl Zanuck was quoted as saying his studio has no TV film plans at present. He denied reports, circulated during his absence in Europe, that Fox has established an outside unit for making TV films.

A major straw in the wind was the major studios’ huddles with music czar Petrillo middle of June for purpose of coming to terms on royalty payments for music used in TV films.

Some indication of the TV film production potential, which has caused the major studios to consider making video films, is the fact that television stations in the Los Angeles area alone are now showing old motion pictures at the rate of about 120 weekly—6000 a year—said to be the highest TV film programming in the country.

For the cinematographer, presently free lancing or not on contract, this can only mean a rosier future in a new and interesting field of activity.

Elmer Dyer, A.S.C., has been signed to photograph an additional series of thirteen half-hour “Craig Kennedy” video films for Adrian Weiss. Production headquarters are at Key West Studios, on Santa Monica Blvd.

Phil Tannura, A.S.C., started shooting the initial series of Burns and Allen half-hour comedy films at General Service Studios. New series, for CBS-TV, are produced by Ralph Levy. Al Simon, formerly with Desilu, is associate producer.

Karl Freund, A.S.C., following layoff from the “I Love Lucy” show, began shooting the “Our Miss Brooks” TV series at General Service Studios for Desilu Productions. Freund will again photograph the “I Love Lucy” show, when it resumes in the fall.

James Van Trees, A.S.C., who shoots the “Groucho Marx” TV show, will photograph pilot films for two new TV series this coming month for Filmcraft Productions. The first will star Chico Marx, with Florence Bates essaying the feature role in the second. Shooting will be done at NBC in Hollywood.

REVIEWS

(Continued from Page 285)

wardrobe and makeup departments to diminish the stature of Miss Blyth, a charming girl in her early twenties, in order to make her appear as an eleven-year-old girl. Here, the camera shoots from a moderately high angle down upon Miss Blyth. Later, as she grows into womanhood, the camera assumes a more conventional shooting position.

Technically, one of the most interesting sequence of shots are the night scenes of the home being moved.
Inside New York—50 years ago...

Re-creating a corner of old New York for the theater is a stage designer’s problem.

But re-creating it so that the color camera will see it and the sound camera hear it as the eye saw it and the ear heard it 50 years ago is quite another story.

It is in reducing problems of this character that the Eastman Technical Service is of great service. Their representatives collaborate with studio technicians; they scrutinize the scenery, establish light and color balances; they help select type of film, color or black-and-white, best to use. Special laboratory procedures, too, may be worked out to ensure precise processing—all to make sure that every foot of film produces best results.

To maintain this service, the Eastman Kodak Company has branches at strategic centers . . . invites inquiry on all phases of film use from all members of the industry. Address:

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- Hollywood Launches 3-D Film Production
- The Vistascope--New Tool For Motion Pictures
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Dear Mr. Maurer:

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This certainly speaks well for the Maurer Camera and I for one would never be without it.

Kindest personal regards,

N. D. Reiss

N. D. REISS, (author of the letter at left) of Reiss Public Address Systems, Detroit, shown in action with his Maurer 16mm.

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RIGHT FOR TELEVISION USE. 300-watt pre-aligned lamp in new design, high intensity lamphouse provides perfect light for printing any type of 16mm film, fine grain, black-and-white or color. Three-way aperture for continuous printing—sound and picture separately or both together. Minimum speed, 60 feet per minute. Other models available.

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ON THE COVER

Photo by Louis Hochman, Photography Magazine.
world's toughest picture problems invited!

Today, the famous Mitchell 16mm and 35mm Cameras are being used in increasing numbers in every part of the world. Pioneered by Mitchell, masterful engineering and quality workmanship has produced these flawless, precision-built motion picture cameras. Every sturdy, proven Mitchell part ... and versatile accessory ... is adjustable to the most extreme and difficult photographic conditions the world over.
Hollywood Bulletin Board

FIRST PRACTICAL demonstration of Warner-Color for members of American Society of Cinematographers was given July 28th when Warner Brothers' "The Miracle of Our Lady of Fatima" was screened at the A.S.C. clubhouse in Hollywood. On hand to explain process and describe some of the problems encountered in using this latest of color film processes was Fred Gage, A.S.C., head of Warner's laboratory and credited with successful adaptation of Eastman Kodak's color negative and positive films to studio's new color filming system.

"Miracle," by comparison with the studio's initial Warner-Color production, shows tremendous improvement in both color and print quality. Responsible for camerawork was Edwin DuPar, A.S.C., who is currently shooting Warner's fourth Warner-Color production, "Springfield Rifle." Also present at screening was John Brahm, who directed "Miracle."

DAVID BOYLE, son of A.S.C. secretary John Boyle, was admitted to membership in the Society last month.

KARL STRUSS, A.S.C., and producer-director Cecil B. DeMille, in a get-together at latter's office at Paramount Studio recently, commemorated 33 years continuous service in the motion picture industry. Karl Strauss once was DeMille's exclusive cameraman for a period of three years, and photographed such famous DeMille productions as "For Better or For Worse," "Why Change Your Wife?," "Affairs Of Anatole," "Male and Female," and "Sign Of The Cross."

SID SOLOW, A.S.C., head of Consolidated Film Industries' Hollywood laboratory, announces an expansion program which will see company's Hollywood plant greatly expanded. New addition under construction will house a quarter of a million dollars worth of new equipment, some of it purchased abroad.

FAYTE M. BROWNE, A.S.C., director of photography at Columbia Studios for the past ten years, passed away July 18th, at the age of 56. From 1926 to 1929, he was head of the camera department at Warner Brothers' studio in Burbank. After becoming a director of photography at Columbia, he photographed more than 25 pictures, mostly westerns, for that studio.

VISITING A.S.C. headquarters during their stay in Hollywood last month were T. Yokota, cinematographer with Daiei Motion Picture Co., Japan, and M. Midorikawa, technical advisor with same company. Both men were associated in the production of "Roshomon," Japan-made film which won an Academy Award this year.

KARL FREUND, A.S.C., who developed the special photographic system used in filming the "I Love Lucy" and "Our Miss Brooks" TV film shows, has been honored with membership in the New York Academy of Sciences, organization representing all important fields of science in America. Freund, who is credited with developing a number of important instruments used in color photography and color film processing, heads Photo Research Corp., Burbank, Calif.
The demand for fast, dependable, quality motion picture film processing is rapidly increasing in every community throughout the country, presenting an excellent opportunity for wide-awake film producers and local laboratories. The Houston-Fearless Model 22 Developer shown above makes it possible to provide this profitable service in your area with only a moderate investment.

This portable machine develops 16mm black and white, negative, positive or reversal films.

It is self-contained, entirely automatic and easy to operate. Complete refrigeration, re-circulating systems, air compressor and positive temperature controls. Operates in daylight, handling the entire job from camera to screen. Model 22 is the same high Houston-Fearless quality that has been standard of the motion picture industry in Hollywood and throughout the world for 20 years. Other 16mm and 35mm Houston-Fearless black and white and color equipment to serve your particular requirements.

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This is MGM's third version of the famous Franz Lehar show, and certainly the most elaborate of them all. Giving Cedric Gibbons' and Paul Groesse's colorful art direction the utmost in faithful reproduction on the screen is Surtees discerning Technicolor camera under his skillful guidance and flair for "painting with light. And this he does in scene after scene to enhance the whole production and make it one of the most lavishly photographed musicals to come out of Hollywood in a long time.

Consisting of more interiors than were in "Quo Vadis" or "The Wild North," Surtees' two previous color assignments, "Widow" displays more of Surtees' versatility in effective lighting and camera movement.

A highlight is his lighting and camera treatment of the sequence where the Count and the Widow meet in the upstairs room at Maxim's, dance and make love. Surtees skilful lighting and lensing of Miss Turner throughout the entire production makes her lovelier than ever.


To a reviewer who has observed Russell Metty's Technicolor photography over the years, "Yankee Buccaneer" displays this cameraman's remarkable advance in filming and lighting color productions. By contrast with Metty's earlier assignments, "Buccaneer" shows real imagination in lighting, and his skillful handling of the Technicolor camera contributes greatly toward giving this U-I offering top-drawer production values.

In short, here is an example of meticulous and beautiful color photography, enhancing as it does the exaggerated albeit gorgeous costuming and makeup of Suzan Ball, feminine star of the production.

The story, laid in 1820, concerns efforts of U.S. Naval officers to trap pirate ships in the South Atlantic. Going ashore on a small Spanish-held island for provisions, the ship's sailors are forced by a beautiful Countess to take her aboard ship. This brings trouble between two rival officers, but the gal's presence is vindicated when she becomes instrumental in rounding up the villain of the piece.

ONE MINUTE TO ZERO—Photographed in black-and-white by William E. Snyder, A.S.C., for RKO-Radio Pictures.

"One Minute To Zero" is the biggest of the Korean war pictures to date. Vividly photographed, it is filled with exciting battle shots, both land and air, and these often steal the show from the purely dramatic footage filmed on sets on the sound stage. Nevertheless, William Snyder's hallmark of skillful photography is stamped on just about every shot, giving the story the visual impact it demands.

Snyder goes from rugged battle scenes to low key interiors on the sound stage with a subtle hand, and his camera treatment of scenes in which star Ann Blyth appears greatly enhances the personality of this lovely actress.

In the final analysis, credit for the photography of "One Minute To Zero" must be divided three ways—between director of photography Snyder, William Clothier who did many of the aerial shots, and Linwood Dunn, A.S.C., whose special photographic effects department did so much to enhance the realism of the battle scenes.

A major portion of the picture was filmed on the U.S. Military Reservation at Camp Carson near Colorado Springs, Colorado, with a troupe of 320 Hollywood personnel.

Producer of the picture, which stars Ann Blyth and Robert Mitchum, was Edmund Grainger. Giving it unusually skillful direction was Tay Garnett.

WE'RE NOT MARRIED—Photographed in black-and-white by Leo Tover, A.S.C., for 20th Century-Fox Pictures.

If one can stop laughing long enough at this picture, which relates the reactions and tribulations of five different couples when informed they are not legally married after living together almost three years, one can see the fine hand of cinematographer Tover gilding the story with his artful lighting and camera treatment.

The production calls for no unusual cinematic effects, no camera magic; but what Tover produces in the way of top flight photography is a credit to this artist's long record in Hollywood production. It's the kind of lensing job that's beyond criticism of any kind.
It's FUN to be FOOL ED!

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Hollywood Launches 3-D Film Production

Industry's first feature-length 3-dimensional motion picture filmed with Natural Vision Corporation's new stereoscopic cameras.

By JOSEPH BIROC, A.S.C.

Three-dimensional movies have been the subject of increasing study in the United States and Europe for the past 25 years. The U.S. Air Force already is using stereophotographs for training purposes, marking, perhaps, the most substantial use of practical 3-D movies anywhere. At the present time, three different stereo systems are being developed in this country, but the top contender, by virtue of its recent successful test in Air Force and feature film production, is that of Natural Vision Corporation of Hollywood.

"Bwana Devil," the first feature-length 3-dimensional color film in history went before Natural Vision's 3-D cameras on June 18th. Produced and directed by Arch Oboler, the picture has an African locale and stars Robert Stack, Barbara Britton, and Nigel Bruce.

Natural Vision is said to be the first 3-D system yet developed which is based on the fundamentals of natural vision, hence its name. The 3-D camera is actually two cameras in a single unit photographing separate film strips. These in turn are projected simultaneously with two projectors interlocked to run in unison. While other 3-D systems have employed dual cameras, none have pursued the theory that the 3-D cameras should see and record the scene exactly as the human eyes see it. In other words, twin cameras placed side by side and focusing directly on the scene overlook the important factor of parallax. Natural Vision's system has variable parallax as the crux of its system. The result is 3-dimension pictures on the screen that induce no eye strain. Polaroid spectacles are worn by the audience in viewing the pictures, the same as for other 3-D systems.

Credit for engineering the Natural Vision camera equipment goes to Friend Baker, a pioneer in the 3-D field for over 23 years, and camera technician O. S. "Bud" Bryhn. Until recently, Baker's developments have been in the field of 16mm 3-D movies. It was a chance meeting between Baker and Milton Gunzburg which led to developing the 35mm 3-D cameras.

Gunzburg had undertaken to produce a documentary film about a youth and a hot rod. When the conventional motion picture camera attempted to record the innards beneath the hood of a hot rod, the pictorial result was disappointing. Someone suggested it would be better if filmed in 3-dimension. Gunzburg looked around for someone who could supply such equipment, and his search led to Baker's workshop at Motion Picture Center studios in Hollywood. To shorten the story, the 3-D camera used by Oboler in filming "Bwana Devil" took shape in record time. Into the picture, meantime, came also camera operator Lothrop Worth who, together with myself, photographed the initial tests with the equipment. The camera was tested periodically for about six months, and when it was declared perfect, Gunzburg looked around for a producer to make a picture.

The tests which I photographed were screened before members of the American Society of Cinematographers at their clubhouse early this year. Other screenings followed; then one day Arch Oboler heard about them. He was in the midst of preparing a new production—a rugged tale about pushing a railroad through an African jungle. Always one to explore the merits of any new cinematic innovation, Oboler looked at the Natural Vision tests and decided to
shoot "Bwana Devil" in 3-dimension, using Ansco Color. Because of my experience with the camera in making the extensive tests, I was engaged as director of photography on the picture. Worth and Bryhn, operator and 3-D technician respectively, and Howard Schwartz and Gene Hirsch as assistants made up our camera crew.

The Natural Vision camera is an interesting piece of equipment. The accompanying photos show the camera in its blimp, and the unique technical details are therefore not visible. Inside the blimp are two standard Mitchell 35mm cameras mounted on a base plate with the lens turrets facing each other. In between are two front-surface mirrors having micrometer adjustments, which reflect the scene into the camera lenses. Controls at either side of the camera base lead to the swivel-mounts holding the mirrors, and enable making the fine micrometer adjustments for the highly important parallax correction prior to shooting each scene. Thus, the two cameras record the scene in left and right images, properly related with respect for parallax.

In addition to moving the mirrors, there is provision for changing the viewing angle of one of the cameras. Mounted on a rotating base, this camera may be pointed at a slight angle in conjunction with the mirror adjustments to achieve the correct parallax.

The usual complement of 4 lenses is missing from the cameras' turrets. Only one lens is mounted on each camera, and this is changed as the need demands. The various pairs (paired for equivalent focal length) of lenses used are carefully matched and tested.

Despite the apparent bulk of the camera and the need for critical adjustment of the optical equipment prior to recording each take, it is possible to attain remarkable speed in making new setups. This is due mainly to the facilities provided by the two cameras and viewfinder which permit the cameraman, operator and the director to scan a scene during a single rehearsal, all at the same time. This eliminates the need for separate "run-throughs" for each man, as when shooting with a two-dimensional motion picture camera.

Selecting camera setups calls for the careful placing of people and dressing of sets, together with the careful selection of lenses of correct focal length to avoid false perspective and distortion. To keep things rolling on the "Bwana Devil" production, most of these decisions were made by Lothrop Worth and myself. Only when we encountered very

(Continued on Page 330)
The Vistascope -- New Tool
For Motion Picture Production

Novel foreground matting device utilizes composite photography, gives added scope and beauty to motion pictures.

By LOREN L. RYDER, A. S. C.
Paramount Pictures Corp., Hollywood, Calif.

The Vistascope is a new device and method of accomplishing and completing composite matte type photography in the camera at the time of action shooting. It can be used in conjunction with both motion picture and television cameras. It is applicable to both black and white and color.

This new device was invented by Achilles Pierre Dufour of France. It was originally called "Simplifilm" and patented both in the United States and abroad. Rights for all United States use and world distribution are held by Sol Lesser and Paramount Pictures Corp. (A new company known as Vistascope, Inc., has been organized and will make these devices available to all companies and persons desiring the use of same. The company address is 5151 Marathon Street, Hollywood 38, California.)

Basically the Vistascope is a foreground matting device in which the matte is a 5 1/2" x 7 1/2" still photograph with cutouts through which background action can be seen and photographed in proper placement, size and perspective, giving a composite of foreground matte and background action all in one photographic process. This should not be confused with background transparency photography where the camera photographs and composites foreground action against a background picture which has been rear projected on a transparent motion picture screen.

The optics of the Vistascope are shown in Figure I. The Vistascope portion is bracketed as shown by "i" and the camera as shown by "j". Light from the object "a" is collected by the objective lens "b" which focuses it through lens "c" to form an aerial image at "d". From there it continues through lens "e" causing it to be collected and fall on lens "f", which produces an image on the film "g".

FIG. II—The Vistascope and camera. Shown above is manner in which Vistascope is employed in conjunction with any motion picture camera to produce composite shots combining photographs and live action.

FIG. I—The optics of the Vistascope and their relationship with those of the motion picture camera. Light from object "a" is collected by lens "b" which focuses it through lens "c" to form an aerial image at "d". From there it continues through lens "e" causing it to be collected and fall on lens "f", which produces an image on the film "g".

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“d” on the film or television camera mosaic at “g”. If a still photograph of proper size is placed in the plane of the aerial image “d” facing the camera “j” and if the still is illuminated by the light “h”, the camera “j” will re-photograph the still. If the still has cutouts and the action at “a” is properly located so as to have the aerial image fall in the cutout area, the camera will photograph a composite of the aerial image and photographic still.

The Vistascope objective lens system (“b” plus “c”) has the same field of view as would be seen by a 32mm motion picture lens. The camera lens “f” is normally a four-inch motion picture lens. The light loss is approximately 5/4 of a stop. In planning scenes and setting up for shots it requires the same perspective and line matching considerations that are required for background projection. It will be found that most shots are not critical. The Vistascope direct-viewing finder is a great aid in line-ups. It also gives the director an opportunity to review the action in the full pictorial setting.

Figure II is a photograph of the Vistascope and camera. Figure III shows a matte of an entrance to the French Opera House. Figure IV shows a composite with live action. The people in the foreground are on the floor of a bare stage with only a small set piece for the door that is located behind them. The man on the balcony is on a grip parallel with a drape backing. Figure IV is a blow-up from the finished 35mm scene.

Figure V is a snow scene, figure VI a cabin with veranda and figure VII a matte which has been made by compositing scenes V and VI. It is to be noted that the cabin has been photographically reversed in order to gain a better balanced picture. Further, certain perspective lines of the cabin have been changed so as to obtain the desired photographic effect. On the studio stage it was necessary to construct only the front wall of the cabin, then as viewed through the Vistascope, live action was photographed of people viewing the snow scene from the verandas.

Although the Vistascope is technically a foreground matting device, it is apparent from both Figures IV and VII that the matte can supply the depth as well as the scope to the composite picture. People can be made to appear to walk through arches and doorways, giving the effect of their being in front of or behind the plane of objects in the matte.

After line-up, a complete composite of aerial image and matte exists in the plane shown in Figure I at “d”. When the camera is at a maximum distance of about two feet from the Vistascope, the camera sees and photographs the entire matte. A zoom shot is obtained by moving the camera in toward the Vistascope. This same camera movement can replace in-and-out camera dolly or boom shots.

The camera can also be panned and tilted—always, of course, stopping within the matte boundaries. The zoom ratio is about two and one-half to one. During all zooming and panning shots the Vistascope remains fixed in position, thus avoiding the complexity of dolly tracks and boom handling normally associated with such shots.

The Vistascope is a new tool. It should aid in better story telling. It should give more scope and beauty to pictures and it should save money. On many shots it will be necessary to build only parts of sets and in some cases no sets will be required at all. The device is not a cure-all but it has many features of advantage over the old glass shots and other early methods of composite photography.

Many of the shots that can be made with this device can also be made by the studio special effects department. If this is true and if dollars can be saved, (Continued on Page 358)
'Anistration'--Streamlined Animation Technique

A new method which employs illustrative art and a minimum of animation found ideally suited to the production of industrial, training and public relations films.

By ARTHUR ROWAN

"Anistration" is the term given a new technique of film making by the Raphael G. Wolff Studios of Hollywood where it originated. It derives from "animation" and "illustration." It combines an improved illustrative treatment with newly developed animation camera technique, which is ideally suited to the production of industrial, training and public relations films.

One of the chief attributes of "anistration" is its ability to compress time and speed up the delivery of a message or story. Where in the past a great amount of time and film has been expended in step-by-step animation or live action, this new system utilizes still pictures of scenes, people, etc., which are given a measure of realism through unique camera manipulation—a procedure described as a carefully-engineered plan of photographing animation cells and backgrounds that gives the pictorial result dramatic movement and life.

To achieve this new photographic technique, it was necessary for Wolff Studio engineers to redesign its conventional animation crane. It is said to be the only one of its kind in the industry. One of the first steps was to provide the crane with an extended platten to accommodate background illustrations of greater length. "Anistration" often calls for use of backgrounds up to six feet in length. Those used on normal animation cranes rarely exceed 18 to 24 inches in length. Also, the cell and platten arrangement provide for use of intermediate backgrounds, which enable the cameraman to achieve an illusion of third-dimensional scenes. This is done by moving the background, the intermediate background and the cell progressively forward, each at different speeds, in making travelling or panning shots. Thus a third element is added to the "anistration" technique to further the illusion of movement in the scene or of the illustrated characters.

"Anistration" makes possible the use of more dramatic art work. Where conventional animation utilizes pen and ink drawings filled in with color, the Wolff Studio method employs rich illustrations having considerable detail. Thus, instead of animating a scene by photographing a great number of progressive cells in single frame exposures, Wolff Studio cameramen photograph or "scan" a single large illustration laid on the platten of the animation crane. Shooting one frame at a time, the camera moves toward or away from the scene for a zoom shot, or scans the illustration diagonally, finally coming to rest on a vital spot in the picture for a brief moment on the screen, while the narrator’s words point up some pertinent fact. Limited animation is used at intervals to further heighten the illusion of action or to give movement to some object or character.

In the studio's most recent "anistration" production, "Freedom and Power," the picture opens with a panning shot of a group of Lexington Minute Men with their flintlocks ready for action. As the camera pans over the group, the narrator's voice emphasizes the determination of these men to protect their liberty, "even with guns if necessary." Here animation is introduced briefly in a close shot showing the gun triggers being cocked, thus accenting the narrator's words.

An example of one phase of "anistration" is shown in the reproduction of a typical background illustration at the top of this page. This has been diagrammed to show the progressive movement of the camera over the whole of the picture. The
background was used in opening the studio's recent production "Airpower American," and begins with recounting the history of the Wright brothers—how they began their experiments in a crude gas-lit bicycle shop, finally building their first motor-driven aeroplane which was to make history for the intrepid inventors. As the narrator's words begin, the camera centers on the picture of the gas lamp hung on the wall of the shop. Here animation is injected momentarily to give life to the lamp: the gas mantle glows and spreads the warmth of its light over the room. Then the camera moves forward again, taking in a composite of the shop interior, finally zooming down to a closeup of the shop lathe. Again conventional animation is employed briefly at this point to inject a note of realism into the scene and point up the narrator's words; then the camera is off again in its panning action and progresses through the shop scene until it comes to rest on that area which pictures the initial steps in the construction of the plane's framework. Here again, animation is invoked to point up an element of action, perhaps to buoy up the illusion of realism at this point; then the camera zooms down again, coming to rest on a picture of the plane's motor while the narrator concentrates on a vital fact related to this stage of the inventors' progress. An interval of animation is injected once more at this point to emphasize the narrator's thought.

Thus, through a combination of intricate camera movement, periodic intervals of conventional animation, and skillful narration, the story is carried quickly forward with a minimum of intrusion on the viewer. Unlike with live action or with contemporary animation, which takes longer to delineate a routine than it takes the mind to grasp it, once the germ of the idea is suggested, "anistration" quickly amplifies the idea, then follows through at a lively pace in keeping with the average mind's ability to grasp and comprehend.

In doing this story in live action or by figure animation, three times as much film would be required. The picture would take three times as long to screen with perhaps no material increase in message impact.

Actually, the animation camera does not "pan" or "zoom" in the manner employed in conventional cinematography. Such movements are accomplished a step at a time in single-frame exposures.
Background Projection Photography

Process shots are action scenes filmed on the sound stage in front of scenes projected on a translucent screen from the rear. The trick is to make such shots appear as though filmed entirely on location.

By Charles L. Anderson

The techniques involved in making process shots today are so highly perfected that much of this type of photography is rarely distinguishable in a motion picture, even by experienced cameramen.

Process shots have been the means of saving studios considerable production time and expense in filming scenes for pictures having a foreign locale, or when certain scenes call for important dialogue that could not be successfully photographed on locations outside the studio. An example would be a scene enacted inside a moving automobile. In such instances, the background consisting of a street scene, as observed from the rear and side windows of a moving automobile, would first be photographed from a camera car. Later, a print of this film, called the background plate, would be projected on a translucent screen set up at the rear of a stock auto interior mockup on the stage. Here the detailed action would be enacted and filmed. In the finished picture, the scene would appear to have been filmed in an automobile while moving along a city street. Most readers will recall having seen such scenes in motion pictures.

Making process shots in Hollywood studios is a task usually executed by a special department set up for this type of work. Often the director of photography assigned to the picture will not have a hand in making the process shots at all. Indeed, many studio cinematographers have yet to photograph their first process shot.

Because many readers among both amateur and professional cameramen have expressed interest in the subject, we shall outline here in a general way the procedure involved in making process shots, rather than attempt a technical treatise on the subject.

A basic work unit for process consists of the following:
1) Motion picture camera with interlock motor.
2) Translucent projection screen.
3) Motion picture projector having interlock motor.

On the sound stage where the process shot is to be made, the BG projector is set up some distance behind the translucent screen from which position it projects the BG plate. In front of the screen, the camera records the composite scene before it, which consists of the scene on the screen plus any players, props or scenery placed before it.

The interlock motors on both camera and projector insure that the shutters of both machines open and close simultaneously. If they did not, a distracting flicker plus blank frames would occur in the finished picture. Exact synchronism between the two machines is therefore essential.

Another important detail is positioning the camera so it will not pick up a “hot spot” on the screen. In some cases, the scene projected on the BG screen tends to appear brighter in the center than at the edges. Process technicians have worked out a number of methods for coping with this problem, one of which is projecting the BG plate at a slight angle with the screen tilted back slightly, as shown in the diagram below. This diagram also shows a typical setup for making a process shot. Latest type background projectors are so designed that the hot spot problem is minimized if not eliminated entirely.

Silent operation of the BG projector is important, too, in sound process work, and blimps are usually supplied to house

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High-speed motion picture photography is unofficially celebrating its twentieth anniversary this year. It is one of the most outstanding engineering developments for analytical studies and illustrative purposes yet to appear on the American scene.

There has been a major misconception and misunderstanding of the problem of high-speed photography by some cinematographers. One of the few exceptions, however, has been John Bishop of Paramount Studios. He has spent many hours learning the difference between the problems which surround the taking of intermittent pictures and the taking of pictures at rates up to 16,000 per second, (not 16).

A Hollywood cameraman, in the early part of 1942, assessed the value of high-speed pictures for the Signal Corps. As a result of his evaluation, the Signal Corps made practically no use of this medium until about 1945. His comments at the time were that the pictures were soft, and there were no sharp frame lines. In reference to the soft pictures, no mention was made that oftentimes soft focus lenses are used in Hollywood on close-ups to eliminate blemishes and scars.

In reverse, John Bishop and Eleanor Gerlach, at the Institute of Medical Research, have been doing high-speed motion pictures in color, which are practically as sharp and clean cut as those taken with a Technicolor camera. They have learned the techniques which have been necessary to get pictures of top-flight quality.

In order to get a better understanding of high-speed motion pictures, and to understand the two different types of pictures, namely, intermittent and high-speed, a number of basic principles must be explained.

In the normal motion picture camera, the film is brought to rest when the shutter is closed and remains at rest as the shutter opens and closes. This shutter opening may vary from a few degrees to approximately 170 degrees. As a general thing, though, this shutter is used in such a position that the exposure cycle is about one-third of the reciprocal of the picture taking rate. In order to reduce the image movement during the exposure, the shutter is closed down, but oftentimes the illusion of these sharply defined pictures produces eyestrain. Therefore, the resolution of taking pictures under these conditions has as its limits the resolving power of the optical system, or optical objective, and the resolving power of the film.

In high-speed motion picture photography the film is moving continuously. There is no intermittent movement that will operate at frequencies necessary for the time magnification studies desired. Both Bell & Howell and Mitchell have their high-speed movements with pic-

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VERSATILITY of MGM's Jeep Camera Crane is revealed in photo above which shows maximum height obtainable (12' 8''), also ability of boom to swing full 360°.

LOWEST position of crane brings camera lens within 18 inches of ground. Designed especially for location use, crane makes off-lot filming easier.

A major contribution to economy in production of motion pictures on location is the ability to move rapidly from one camera setup to the next and making the camera ready for resumption of shooting with a minimum of delay.

For this, the most important requisite is a mobile carrier for the camera having the added facility of a camera crane or boom, and which permits moving the camera quickly from one setup to another without the necessity of having to disengage it from a tripod or other mount, then reassemble it again.

To meet his studio's need for a camera carrier of this type, John Arnold, A.S.C., Metro-Goldwyn-Mayer's executive director of photography, has developed a new camera crane mounted on a Jeep.

"Few camera cars or cranes heretofore available to our cameramen for location work have provided the desired speed, ruggedness, and flexibility," said Arnold. "There has been a great need for a compact camera crane of moderate size affording all the convenience and flexibility on location that we now obtain on the sound stage with our R-0 crane.

"When the war-time Jeep was introduced, we saw in this 4-wheel-drive vehicle the basic foundation for the mobile camera carrier we hoped to develop for use especially in remote and rugged locations."

After four years of experimentation and development, MGM now has in operation the first of Arnold's new Jeep camera cranes, which is pictured on this page.

Upon completion, the prototype crane underwent severe tests. Especially impressive were the results obtained with the crane elevated to maximum height, and with the Jeep traveling at various nominal speeds. Test results show that the unit can successfully be used to
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EASTMAN
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Amateur CINEMATOGRAPHY

John F. Cowart, of Atlanta, Georgia, has entered three American Cinematographer film competitions, winning an award each time. Cowart switched from his 16mm Bolex to an Auricon Cine-Voice sound camera to make "A Story Of A Disc Jockey," his first 16mm sound-on-film effort. It was one of the Top Ten award winners for 1952.

Rugged Individualism In Amateur Movie Making

The third in a series describing some of the technical aspects of winning films in American Cinematographer's 1952 Film Competition.

By John Forbes

Much has been stated in recent months regarding the problems encountered by the lone amateur wishing to produce serious movies. As M.G. Livada said in his article, "Needed—A New Deal For Serious Amateurs," in the May American Cinematographer, "... the continuing improvement of standards of amateur films throws the cine amateur of today into a grave dilemma. He has to choose between working alone and working within a film society or cine club."

John F. Cowart, of Atlanta, Georgia, chose the former course in making his prize-winning film, "A Story Of A Disc Jockey," one of the Top Ten in American Cinematographer's 1952 Amateur Motion Picture Competition. The film is an outstanding example of what can be accomplished by the lone amateur working unaided by technical assistants, and it becomes even more remarkable when we consider that the film has lip-sync sound throughout.

“I do not think it a handicap not to have a crew of helpers when attempting to produce a serious amateur sound..." (Continued on Page 350)
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BAUSCH & LOMB
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Amateurs Who Became 'Pros'

What are the serious movie amateur's chances of becoming a professional cameraman? Here are case histories of a few who have found success in various professional fields.

By A. D. Roe

Is there a place in the professional motion picture industry for the amateur movie maker with ability? Can the ambitious cine amateur hope to progress to the ranks of the professional cinematographer in the motion picture studios? These are questions that, if not outwardly expressed, at least exist in the minds of hundreds of serious 8mm and 16mm amateur movie makers. The answer is a qualified "yes." First it must be said that little opportunity exists at present for the advanced amateur to become a studio cameraman. The reason, of course, is that there still are more experienced professional cameramen in Hollywood than there are jobs—even though television film production in recent months has absorbed many of the formerly unemployed.

There are other professional fields, however, that hold promise for the expert or semi-professional 16mm cameraman—any one of which could lead to Hollywood. There are numerous instances where former 8mm and 16mm movie makers have found rewarding work behind professional cameras in such fields as industrial, educational and television film production, and in the lecture film field. These are the most fertile fields at present for the amateur.
Is 'On The Nose' Exposure Always Desirable?

It is often possible for the cine amateur to create unusual moods in his pictures where the general tone is at variance with the rest of the picture.

By LEO J. HEFFERNAN
(Reprinted From Metropolitan Motion Picture Club Bulletin)

In this corner we have a novice filmmaker whose fondest wish is to produce correctly exposed scenes, which will be the envy of all his friends. He tries and tries, but it is only once in a while that he attains his goal.

Now, over here we have an "advanced" moviemaker who never has to ask himself, "Wha' happened?" He really does a job with the exposure meter. The exposure is on the nose every time. He knows how to compensate for this, that and the other thing, and the result is that he gets consistently good, even, and what is referred to as "correct exposure."

Further along the moviemaking corridor we come across another chap who is asking himself, "Is correct exposure always desirable?" This sounds like heresy, but actually the lad has a point.

Correct exposure is a matter of taste, to some extent. A filmmaker whose esthetic sensibilities lean toward full, rich colors will regularly set his lens diaphragm one full stop smaller than that used by an amateur whose eyes are pleased by pastel shades on the screen. In between lies the rest of the picture.

It is often possible for the cine amateur to create unusual moods in his pictures where the general tone is at variance with the rest of the picture.
on-film production,” Cowart said, “The only helper I had on ‘Disc Jockey’ was 18-year Barbara Elliott. Barbara served as script girl, and often helped me handle electric cables for the lights and sound equipment, connect plugs, and do other various jobs.”

Every scene in the movie was filmed after midnight in various locales in the city of Atlanta. Since much of the action takes place in a radio station control room, it was necessary for Cowart to wait until a local radio station, whose control room he used for many scenes, went off the air at midnight.

“I have my own Cine-Voice sound camera,” said Cowart, “and this equipment along with my lights, amplifier, etc., was set up in the control room several nights after twelve o’clock.”

The opening scene in the film shows a disc jockey relating events of the story which is pictured in retrospect. Cowart has always held that utmost realism is an essential element for any amateur film, and he therefore chose a real-life disc jockey, Bill Mims, for the part of the disc jockey in his picture. No professional actor could have turned in a better performance.

“By actually getting people to play themselves on the screen,” Cowart said, “I eliminated much of the artificiality that marks so many serious amateur films. Since good voices are very important in sound films, it was equally to my advantage to use people who used their voices in making a living; thus I chose as many of my actors as possible from among friends in the local radio field.”

The policemen seen in the film are the real thing, too, as are the police cars. The Atlanta police department generously loaned Cowart one of its cars and permitted a number of police officers to take part in the picture.

“Several times, during shooting,” said Cowart, “urgent radio calls summoned our police car and officers away. But they always returned as quickly as possible, whereupon we would resume shooting.”

Many organized cine club groups setting out to film a picture have rarely demonstrated the organization evidenced in Cowart’s film, and few of the pictures made by such groups can boast the professional finish which Cowart has given his production. But perhaps this was due to the very fact that he worked virtually alone, and was not subject to the whims and vagaries of group opinions. Conflicting personalities therefore did not have to be considered in selecting the cast.

“Whenever I need a particular character to fill a role,” said Cowart with modest self-assurance, “I go out on the street and look for him. I may find him walking along Peachtree street, ask if I did Bob Smith, or in a school room where I spotted Joe Wray. Listening to a broadcast led me to Bill Mims and Dan Ross, the radio announcers who appear in ‘Disc Jockey.’”

Every person whom Cowart has approached to portray a role in his films has cooperated wholeheartedly but one, he says, “This was a toothless, bald-headed, hawk-eyed old fellow—a real local character—who steadfastly refused to appear before my camera, preferring to shoot pool in a neighborhood billiard parlor, instead!”

Because the entire story of “Disc Jockey” takes place at night, Cowart’s photography was by artificial light. It is the lighting that is one of the standout features of the picture, and demonstrates that among all the professional techniques of movie making which Cowart has so assiduously studied, lighting has received more than uncommon attention. Despite the fact many of the scenes appear to be lit with professional lighting equipment, Cowart said none was used on the picture.

“I used five lights in all in filming the entire picture,” said Cowart. “These consisted of three photospots and two photofloods.”

Some of the impressive lighting effects he achieved with this modest equipment is evident in the two film clips reproduced here from the picture.

Filming the night exteriors took place following a sudden change in the weather. One evening, a cold rain fell unexpectedly, followed by freezing temperature. The rain, falling on the hot photolamps, caused them to explode, forcing Cowart to scurry around for replacements, a difficult task after midnight anywhere.

Cowart found the feat of handling his sound equipment in addition to the photography relatively easy. For operating power he used regular 110-volt domestic current instead of batteries. When working around the radio transmitter the first night, an annoying hum intruded in his sound system. But changing position of his microphone eliminated the trouble with very little delay to production. It was the only trouble encountered with the sound system, Cowart said.

Cowart used Eastman Kodak Super XX panchromatic film, single perforated, for the entire production. An exposure meter was not used at all in determining exposures, “I have become so accustomed to working with photofloods and photospots,” he said, “that I have come to know the correct lens stop to use.” Exposures are pretty near perfect throughout the picture.

All this is submitted as evidence that, in movie making as with anything else, “where there’s a will, there’s a way.” Admittedly, few amateur movie makers, working alone, are able to undertake a pretentious film production. It does take some assistance to tie up the loose ends and keep the production from going off on a tangent. The secret, it seems, is having the ability to carefully pre-plan the production, to know how to persuade desirable people to take part in the production as actors, and in addition to knowing how to achieve good lighting and photography, to have a flair for direction. All these attributes can be developed in various degrees of perfection through diligent study and no little practice. Practice makes perfect, and you have to shoot a little film at regular intervals in order to perfect your skill.

HOLLYWOOD LAUNCHES 3-D FILM PRODUCTION

(Continued from Page 337)

complex problems or situations in attempting an extreme effect called for in the script was it necessary to talk it over with Mr. Oboler. In such instances, the many tests we made previous to production served as an excellent yardstick.

The operating crew working with Natural Vision cameras must be exacting in their work—much more precise than in 2-dimensional cinematography. The mirrors, which are the critical center of the system, must be carefully positioned and checked, both before and after making each shot. Thus if a mirror is found out of adjustment after the shot—a rare thing—it can be corrected and the scene reshot immediately.

Over a period of time, many interesting discoveries have been made in the operation of the camera. We have learned how to create interesting variations in the perspective by adjustment combinations between parallax and focus, or by changing the parallax only or focus only, as the scene is being photographed. Here, precision on the part of the camera operator and assistants is most essential.

In shooting “Iwana Devil,” the camera was mounted on a mobile camera car, called the “Blue Goose,” for almost every take. This car, a converted 4-wheel-drive Army weapons carrier, has a fork-lift and platform on the front,
operated hydraulically. This outfit enabled us to use the camera in practically any locale of the rugged mountainous location 45 miles north of Hollywood.

Although Natural Vision cameras are not limited to static camera shots, we used no moving camera shots in this production, chiefly because of the rugged terrain in which we worked. The peculiarities of 3-dimension made this possible because 3-D gives a scene such unusual depth and perspective that there is not the need for camera movement that characterizes conventional 2-dimension movies. Obviously, this also contributed to speeding up production through elimination of time-consuming additional camera setups. Valuable time is saved because it is unnecessary to model for lighting, as in 2-dimension pictures: the 3-dimension factor takes care of modeling, giving as it does depth, roundness and added perspective to the scene. Indeed, after noting the pictorial results after the first days' rushes, director Oboler thereafter came to settle for a single take on many scenes.

One of the characteristics of 3-dimensional movies, which made it such a spectacular innovation years ago when first presented to the public, is the way objects can be made to appear coming right out of the screen and into the audience. Today, such freak innovations must be avoided, Oboler believes, if 3-dimension movies are to assume proper stature. For this reason, such effects are employed rarely in “Bwana Devil” and then only to emphasize some particular action, as when an African warrior throws his spear directly towards the camera. In another instance, the ominous mood of the warriors is pointed up when, in a scene showing them advancing toward the camera with spears raised, the menacing spears project out of the screen—an unusual dramatic effect.

There is a great deal still to be learned about photography with this equipment, something that will be accomplished by trial and error, just as have the developments which we have come to employ today as standard practice. We discover something new almost every time we project dailies; this leads to new experiments and ultimately perfection.

Natural Vision's 3-dimension system does not entail costly changes in theatre projection equipment. All that is necessary is a simple interlocking drive, joining the movement of both projectors so that the machines operate in synchronism. Already, sensing the dawn of the era of practical 3-D motion pictures, several manufacturers of theatre projectors...
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To insure rigidity of the crane, a screw jack at either side of the chassis locks the Jeep frame securely to the rear axle, nullifying action of the springs.

The crane arm is somewhat shorter than that of the R-O crane and is similar in construction to the latter. The arm is of “skin-stress” construction—that is, it has no conventional framework, but is made entirely of 12-gauge steel plate and entirely welded. Instead of reinforcing cross-members, there are baffle-plates at intervals within the assembly which strengthen the unit and prevent torque. The crane arm is supported in a U-shaped cradle mounted on the pivotal column, and there is provision for manually locking the arm in any position, with or without the balancing plates in the weight buckets. The latter, incidentally, have been designed along new lines to provide more even distribution of the weights used in balancing the camera and operator.

The camera platform and the accompanying linkage, which maintains the camera platform in level position regardless of angle of the Jeep, is essentially the same as that of the R-O studio crane. The camera mounting base is also the same and there is the usual swivel-seat for the operator.

The range of the crane affords using the camera with the lens as low as 18 inches from ground level or at a maximum height of 12 feet 8 inches. With the camera used at lower levels it is possible to swing the crane arm a full 360°. This requires first removing the seat and the steering wheel of the Jeep—a matter which was considered in the Jeep modifications.

Because of these practical features, it is possible to change camera setups on location in a third of the time normally required without the Jeep crane. A slight change in camera angle often can be accomplished without moving the Jeep at all, simply by swinging the crane arm to a new angle or changing the height of the camera. When moving the camera to a new location is desired, this may be done quickly and with the camera ready for immediate use. Having a compound transmission, the Jeep will negotiate the most rugged terrain, giving the camera access to locales which hitherto have been inaccessible.

To transport the Jeep crane from the studio to a distant location, it is driven up on a special trailer under its own power, and the trailer hitched to one of the transportation trucks.

The Jeep crane is scheduled to receive its first use in a major production this month when the studio begins filming “Vaquero” in Kanabe, Utah. END
scene or sequence is broken down into scene, frame by frame. It is carefully graded into a closeup, the camera is moved gradually closer to the illustration a fraction of an inch between exposures. Both pan and zoom movements may be combined; also it is possible to produce a "whirl" shot merely by rotating the camera on the lens axis a fraction of an inch between shots.

This action is controlled with precision by the camera operator. Hand cranks having micrometer scales and Veedere counters, which register in fractions of an inch, enable the operator to move either the main background, the intermediate background, the animation cell or all three, individually or singly, to achieve the necessary effect.

The animation camera work actually begins with plotting the picture during the production planning stage. At this time the production is charted scene by scene, frame by frame. It is carefully timed to match the narration, and then the amount of time to be allotted to each scene or sequence is broken down into number of frames. This is translated to a chart for the cameraman, to be followed in photographing the production. This chart shows exactly where the background, the intermediate background, if any, and the animation cells are to be placed on the platten for every single frame exposure, as well as the position of the camera with relation to the platten bearing the illustrations. Is the next thing to push-button cinematography.

The paper work that precedes shooting is extensive, and is carefully calculated by the scene planner. Sometimes, the cameraman will deviate from the shooting instructions when he finds for example that he can smooth out an abrupt pan or zoom movement indicated on the chart.

By use of illustrative art, instead of colored pen and ink drawings, the full-detailed art in color gives the presentation wider visual scope because of the greater detail that the artists can work into the illustrations. Thus the same impact is brought to the screen that we find in a good color photograph, a painting, or magazine illustration.

In some instances, actual photographs are used in conjunction with the illustrations—sometimes in full square format, sometimes as cutouts, as in one instance in "Airpower American" where planes are shown winging across a cloud-flecked sky. The planes were photo cutouts mounted on a fixed cell, while the sky and clouds were painted on separate backgrounds and moved during photography to give the illusion of movement to the planes.

So accurate are the calibrations on the positioning guides of the crane that it is possible for the cameraman to go back to the crane at any time to make replacement footage, starting with any cell or point on the background illustration. He can start shooting on the presise cell or charted step in the animation shooting script and produce replacement footage that matches the vacant spot in the production perfectly.

A Model 5 Berndt-Maurer camera, redesigned for specific use on the animation crane, is mounted vertically to rotate on the lens axis. The mounting plate also permits moving the camera "north" or "south," "east" or "west" during the shooting cycle. The film magazines are mounted on what would ordinarily be the back of the camera for easier reloading and to permit the camera to be tilted forward for inspection and threading film.

For illumination, common house lamps are used in special lamp housings and are controlled by Colortran transformers to produce illumination of the correct volume and color temperature. This latter factor is all important in photographing Wolff productions with color film. Commercial Kodachrome is used exclusively. Wolff Studios is reported to be one of the greatest single users of this film stock anywhere.

The studio makes careful color tests on every batch of film used, and in most cases uses one color emulsion (i.e., of the same serial number) for each production to insure color consistency and control. This is highly important in achieving the utmost fidelity of color in the great variation of hues and tints employed in the colorful illustrations used in the "anistration" system.

"Anistration" is an example of the ingenuity and the constant drive for new and better techniques that prevail at the Raphael G. Wolff studio, and which have made the organization one of the leaders in its field. This leadership is evidenced by the many fine Raphael G. Wolff productions which have won awards in recent international film festivals.

"Anistration" isn't necessarily a method to save money," says Ray Wolff, the studio's head. "That isn't its prime purpose. Its chief advantage is its ability to tell a story quicker and to produce a visual impact that is genuinely impres-sive—that stays longer in the memory of the viewer."

"Production costs can also be cut," Wolff pointed out, "when we compare our costs to those of producing comparable subjects in straight animation or live action." As an example of time- and money-saving, Wolff cited "Freedom and Airpower" which, if produced in conventional animation, would have required about 15,000 individual cells, and involve about three times the amount of work and time to prepare and photograph. Using the "anistration" system, the production required but 1,500 cells.


"Both took a chance on this radically new departure in film production and we are happy their confidence has been justified.

"We feel that 'anistration' is the answer to today's problem of informing a public having less and less time in which to absorb new ideas, digest day-to-day news, or simply to be entertained. The same conditions which have brought us the tabloid daily, the digest-type magazine, the pocket-edition novel, and even more recently the 'Quick-type publications are also responsible for the development of 'anistration.' As a technique for industrial, educational, training and public relations films, it is ideally suited to the times."

HIGH-SPEED CINEMATOGRAPHY

(Continued from Page 343)

ture taking frequencies up to about 250 pictures per second. The maintenance of these cameras is said to be high, however.

In the continuous cameras the film is in motion constantly and the shutter action is produced, in American practice, by interrupting the light source, or by using a rotating prism. Contrary to continuous projection practice, where an exposure cycle as long as possible is required, in the continuous cameras the exposure cycle should be as short as possible to ensure film with sharp images for measurements purposes.

In the case of interrupted light source in cameras of the Edgerton type, the flashing gaseous discharge tubes are synchronized so as to lay down a picture every three-quarters of an inch on the film. This camera has a commutator built into it to provide this synchronization, and it is a major premise that
the film travel no more during exposure than one-half the resolution of that film. This means that as the exposure time is shortened, the film can be run at greater rates of speed. Of course, the old spark cameras, and interrupted spark cameras, could be utilized at even higher speeds than with the Edgerton lights. The maximum picture taking rate of an Edgerton camera, and with the power supply of the lights used, is 1500 pictures per second. By using multiple power systems for the lights, and reducing picture frame height, high picture taking speeds are possible, even up to 20,000 per second. These could not be projected unless optical hand springs were turned in printing these onto motion picture positives.

In the rotating prism cameras, an optical flat is designed so that with an optimum thickness and index of refraction, and number of degrees of arc through which the prism rotates, the image is laid down in synchronism with the moving film. Advances, so great, have been made in the design of the rotating prisms that when high-speed pictures are added to normal speed pictures in a print, such quality is now being obtained that there is no longer the noticeable difference that the Signal Corps cameraman noted.

The design of these prisms, and the associated moving parts working in conjunction with the prisms, are quite critical. Tolerance of manufacture is being tightened up all of the time so that there is no bounce or weave of the film or image when the film is moving at speeds up to 200 feet per second. Where it was formerly thought that tolerances in camera manufacture were tight at 1/10,000 of an inch, tolerances of 1/100,000 and 1/1,000,000 of an inch are now being considered on cameras which are being designed. Exposure cycles on the commercially available rotating prism cameras vary between 1/5 and 1/6 of the reciprocal of the picture taking rate.

A blending of the Edgerton system and the rotating prism types has recently taken place. Exposure times of 1 1/2 microseconds each of picture taking rates up to 7,000 per second can be obtained when using a reluctance triggering pickup in the camera, and firing the lamps when the optical flats are perpendicular to the film plane.

The picture taking spectrum of one commercially made camera of the 16mm type is 1,000 to 3,200 per second, while that of another type the spectra are as follows: 8mm, 300 to 16,000; 16mm, 150 to 8,000; and 35mm half-frame, 500 to 6,000.

Lighting is always a problem to be considered as far as the cameraman is concerned. The normal procedure in

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- **New Control Strip Printers** operate without notching original—produce fades and dissolves from A & B rolls—incorporate filter changes between scenes.

Precision Film Laboratories—a division of J. A. Maurer, Inc., has 14 years of specialization in the 16mm field, consistently meets the latest demands for higher quality and speed.
photography is to light reasonable flat, and to use spots in various places to bring emphasis to particular portions. Both high-key and low-key lighting are used for dramatic effects. With the increasing use of Technicolor in feature productions, to get the most pleasing color, the saturation of colors is kept reasonably constant.

Contrary to this type of lighting, concentrated spots are used for high picture taking rates. The images of the filaments of the lights themselves are projected on the subject with the use of mirrors and/or condensing lenses. These filament images are so hot that black paper can be set on fire, and hard rubber melted. To overcome these disadvantages, water cells have been placed in the lighting units to absorb the heat without seriously affecting the output. Incandescent lamps are burned at over their rated voltages (the filaments having a lower voltage and gradually brought up to temperature) in order to get maximum efficiency. Efficiency, in this case, does not mean long life, but effective light output, regardless of the life of the lamp. In an experiment which costs a thousand dollars or a million dollars, a few dollars worth of lights means nothing. Furthermore, color temperatures may be obtained from these tungsten sources which are suitable for color photography. Four 1,000-watt, 100-volt, lamps with spherical reflectors will illuminate a 3"x3" field with sufficient intensity to make color pictures at 5,000 per second. The color temperature obtained with these over-volted lamps is suitable for available color emulsions. There is more variation in the day to day processing of subtractive color films than there is by the slight increased color temperature produced by these lights. With these same lights, it is possible to make black and white pictures at 16,000 per second at 1/5.6.

Old Sol is another excellent light source for high-speed motion pictures. In the desert regions of the United States, pictures have been made on Super XX negative at 4,000 per second, using a number 25 Wratten filter. With daylight, in Rochester, reversal pictures have been obtained in the summertime at 5,000 per second at 1/2.7. Contrary to the Kodak Handbook on Kodachrome photography, where it is stated that the minimum exposure time for Kodachrome should be a fifteenth of a second at 1/8, successful exposures have been made at a 1,000 per second in the desert country at 1/2.7. True, there is a difference in reciprocity loss at these low exposures, but the redeeming feature is the latitude of the film. This should be even better as far as color is concerned when color negative becomes generally available.

In order to light larger areas, aircraft searchlights and photoflashes, fired in multiple have been used. One ordnance cameraman is successfully lighting a 10'x12' area by firing a number of photoflash lamps one after the other. The electronic firing circuit is so designed that there is no apparent washout of light between particular firings. One user of high-speed photography wants to (be able to) illuminate an 8'x8' area to make pictures at 50,000 per second.

The above statements indicate that there is a difference between the normal set lighting and the high-speed photographic lighting.

An interesting experiment was encountered in Los Angeles. The 750R high-speed photographic lamps were used to photograph living tissue. Approximately twenty of these lamps were focused on the subject, and it was necessary to keep the living tissue bathed in a saline solution to prevent damage. In addition to this, with a fewer number of the focusing lights and with water cells, that tissue of humans can now be photographed, as well as that of animal subjects, with perfect safety for the patient. In the not too far distant future, it is anticipated that one of the greatest medical monographs will appear as a result of these studies.

The studies above have been confined to the 16mm, 8mm, and bastard-frame 35mm cameras. The 16mm camera has been primarily the laboratory workhorse, while the other two have been used largely for ballistic purposes. The 8mm and 16mm frames could not be blown up satisfactorily onto 16mm or 35mm film. The resolution was just not there. The projectionists for the 35mm film have trouble enough trying to frame the half-frame 35mm pictures. They thought they were seeing double on the screen, which they were.

It is of interest to those in the 35mm field that a full-frame 35mm high-speed motion picture camera is in development, and a great future is predicted for that camera. It will utilize the design changes which will produce better pictures than ever before. Its photographic objectives will be of the new f/2.3 series which has recently been announced. The sprocket plane will match the image plane. The camera will have a 500-foot capacity, employing daylight loading spools of standard negative perforations so that both black and white and color negatives can be freely used.

What is going to be the effect of this new camera? In the entertainment field this new medium can produce a whole new series of shorts. What happens when Sam Snead hits the golf ball at 1,000 pictures per second, and not 64. What happens when a can of beer is opened, or gingerale shaken up? What happens when a television tube is hit with a hammer? What happens when mama mixes the cake with her electric mixer? What happens when a firecracker goes off? What happens when the motor boat propeller gets snarled up in the reeds? The field is unlimited as far as suitable entertainment subjects are concerned.

High-speed photography can replace much of the animation which is used in instructional pictures, when action can be slowed down as much as 833 times with the present line of cameras. The mind can comprehend what is occurring on rapidly moving subjects far better when one can see what is happening, rather than try to guess what is happening.

High-speed motion picture photography is in its infancy. To those who are engaged in normal photography and motion picture photography it is important to point out that a whole new set of ground rules exists for high-speed cinematography. With new photographic techniques rapidly developing, each presents its own special problems. These techniques must be learned through experience, and they are easily acquired when approached with an open mind.

**AMATEURS WHO BECAME 'PROS'**

(Continued from Page 339)

Stranger”—but instead of photographing it, he directed it.

Edwin Olsen is perhaps the only professional cameraman in Hollywood to rise from the ranks of amateur movie making hobbyists in recent years and be admitted to the professional camera-men’s union. Several years ago, Olsen retired from a successful contracting business to travel, ski and shoot 16mm movies. A skier of note, he wanted to record his skiing trips around the country in color movies. It was during one such trip that Olsen learned about the periodic boating expeditions down the treacherous Colorado River rapids. This suggested a highly interesting 16mm picture in color, and Olsen arranged to accompany the next expedition.

His 16mm Kodachrome documentary of the trip, which ran 1600 feet, won him immediate national renown as a cine photographer. Later, Warner Brothers purchased the film and from it edited a one-reel short subject titled “Facing Your Danger.” It won an Academy Award in 1946, thus adding further to Olsen’s prestige as a photographer.

By now, Olsen was already established as a professional cameraman. James Fitzpatrick, maker of the famous
“MGM Traveltalks,” had also seen Olsen’s Colorado River film along with his other works, and had engaged him as cameraman. A year later he became associated with Dudley Pictures Corp., makers of “This Land Of Ours” and “This World Of Ours” documentaries, which are currently seen in theatres and on television.

Olsen is now chief cinematographer for Dudley, has traveled to nearly every nation on the globe with his camera in search of material for Dudley’s films. Many movie amateurs believe that only 16mm filmers get a chance at professional cinematography. However, Ted Phillips proved the exception. Years ago, Ted’s 8mm movies were consistent winners in Chicago Movie Club contests. Burton Holmes, the travel lecturer, heard about his films and one day summoned Ted to his home to show his pictures. Ted’s genius for pictorial composition and color quality greatly impressed Holmes who hired him as his chief cameraman. Ted switched to a Cine-Special, and for years, together with his wife Dorothy, he traveled all over north, central and south America filming material in 16mm color for Burton Holmes’ lecture films. Later assignments took Phillips to Alaska, Hawaii, Australia, New Zealand, West Indies, and Mexico.

During his amateur movie making days, Phillips developed a knack for “editing as you shoot” — a technique which proved ideal for lecture film making. The subjects he photographed and edited for Holmes are regarded the best in Holmes’ series.

Some of the better amateur movie talent in the country is to be found in Salt Lake City, Utah. Here, Richard V. Thiriot had been an amateur of note for many years when he became associated with the local Eastman Kodak agency. This afforded him opportunity to meet and talk with many people interested in home movies. One of these was the athletic coach of the local university, who one day came to Thiriot for help, following a badly photographed movie record of a college athletic event.

As Thiriot was explaining the cause of the trouble, the coach interrupted with an offer for him to come out to the college and shoot the school’s athletic events in 16mm. Thiriot accepted and thus began a long association with the college as motion picture photographer. Other filming assignments came to him as a result of his college work, and when KSL opened its TV station and looked about for a competent man to take charge of its film department, the station sent for Dick Thiriot.

Thiriot owns extensive motion picture equipment, including a Bell & Howell 70-DH camera having an electric motor and 400- and 1200-foot film magazines. The television station commitment is such that Thiriot can continue shooting the annual football games for the college, and produce TV commercials for the station’s many sponsors.

When Thiriot took up the hobby of home movies about fifteen years ago, television had scarcely been heard of. But today, it has given him his first real opportunity as a professional cinematographer.

D. Lisle Conway is another former movie amateur now in television film production. During the 30’s, Conway was one of the most prominent amateurs in Syracuse, N. Y. His films were regularly winners in club contests. Later, Conway was elected to the faculty of Syracuse University, where for five years he served as technical director of the University’s radio department. In spare hours, off campus, he carried on with his movie making—shooting free-lance newsreel footage and commercial motion pictures. Meantime, he kept alert for any opportunity to enter the professional field, and when WHEN-TV needed a man for its mo-
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the question is—why do we not use more special effects shots. Part of the answer is that only the special effects man can completely visualize what will be done. It is difficult for a director to plan live action without seeing it in the complete setting. Most special effects shots are made by compositing two or more motion picture films which cannot be viewed simultaneously and seen in composite such as can be done with the matte, as for example Figure VII.

It is the thought of the writer that the Vistascope will bring about a greater use of composite photography and as the art develops, other possibilities and advantages will become apparent.

Some of the advantages of the Vistascope are: the dailies are returned the next day or along with production daily. They are not tied up in the special effects department for weeks and/or months; there is no increase in grain size during zooming, panning and tilting such as exists when motion picture scenes are blown up for this purpose; the matte lines are sharp and definite; still pictures can be taken from books, prints and libraries of photographs; the mattes can be made from paintings and drawings. It is possible to touch up or change the matte to meet specific requirements. Still pictures are less expensive, more plentiful and easier to shoot than the motion picture film normally used for composite photography. Still pictures can be shot at much lower light levels, in fact generally with the normal ambient room light.

The resolution of the Vistascope pho-
tography, especially in depth, can be better than straight photography. If the still has high-resolution and if the plane of the aerial image is in the plane of the matte, they will both be in sharp focus—an approach toward universal focus. The light requirement including rigging is reduced to lighting only the live action.

Although there is a great advantage in the use of the Vistascope in black and white, its greatest advantage and no doubt its greatest use will be in the field of color photography. Special effects work in color has become very complex and this new tool may prove to be one of the simplifying factors in the ever-increasing complexity of motion picture making.

BACKGROUND PROJECTION

(Continued from Page 342)

both the projector and camera. One reason the new Mitchell background projectors are finding favor with the studios is because they have scientifically silenced movements and therefore can be used without a cumbersome blimp.

Film registration is more critical in process photography than in ordinary filming because there can be no unsynchronized movement between the foreground objects and the background scene. A slight amount of image movement is not objectionable if there is no other element in the scene to compare it with. But if the background should show a slight weave while the foreground is rock-steady, the error is readily apparent. For this reason all background projectors are equipped with registration pins and most background plates are photographed in cameras having pins. Background projectors also have interchangeable movements so that plates that were photographed with pins either above or below the frame can be registered at the same sprocket holes in projection.

Background plates are usually photographed on a slow, fine-grain panchromatic stock. The negative and prints are developed with the contrast characteristics of the studio's own process equipment in mind. Some process specialists require three prints to be made at different printer-lights thus providing a range of plates from which the best is selected for projection. One print is made at a brightness level predetermined as normal, while two more are made to bracket this choice. Thus a last-minute adjustment can be made on the set to balance the background density with the foreground lighting by merely changing prints in the projector.
The background negatives are printed on regular fine-grain release stock having standard Bell & Howell perforations. A step printer is used to preserve the pilot-pin registration of the negative in the print.

Numerous accessories have been designed for use in working with background projectors. In use at the present time are intercom units between projector and camera; cold-water filters to reduce the fahrenheit temperature of the light before it reaches the film; and special aperture plates that allow the side of the film, including the sprocket holes, to be projected for quick tests. This last device can settle immediately any dispute as to whether this is a weave in the plate or the projector.

Lighting a set that includes a process screen requires more care than for an ordinary scene. Too much light must not be allowed to spill over onto the screen, for it lightens and degrades the projected image. And a light that hits the screen directly washes out part of the background altogether. The actors, set, and props in the foreground must be arranged and lit so that the lighting and contrast in the background as closely as possible. This might seem like a case of the tail wagging the dog, but the director and cameraman usually are given a wide selection of plates to choose from so that they are not hampered by having to match scenes to unsuitable background material. Where there is greenery on both the plate and foreground, the cameraman must balance his screen and foreground lighting so that a difference between the real and projected greenery will not reveal to the audience that a special effect is being used. This balancing requires the cameraman to know beforehand exactly how any shade of color will reproduce on black and white film.

Another difficulty, but one that is easily overcome with experience, is that the screen always photographs brighter than it appears to the eye. It often photographs brighter than an exposure meter reading will indicate. How can this be possible? The explanation is comparatively simple. The image on the screen is flickering 24 times a second because of the shutter blade in the projector. There is light on the screen only 50% of the time; yet the light, because the flashes are synchronized with the camera, is almost 100% utilized in exposing the negative. The set lighting, on the other hand, supplies constant illumination but is acting on the negative only when the camera shutter is open. Therefore, the light on the screen that we see is twice as effective photographically as the illuminated foreground.

The screen illumination is also more effective because it has been produced by a blue-white carbon arc lamp while the set is usually lit with incandescent lamps or a combination of arcs and incandescent. The higher rating of process film with a bluish light must be considered when balancing the screen and set. Of course, the "old timers" seldom bother themselves with these facts any more because they automatically see any process screen in terms of its brightness in the final print.

Perhaps the most general classifications for process shots are "stationary" and "moving." A stationary shot will have the screen outside an office window, or behind a fence in a rural scene. Or it could be behind a fishing pier. In each of these set-ups, the screen continues the view that the foreground set leads us to expect: the busy street outside the office, the rolling hills beyond the fence, or the ships lying at anchor near the pier. A moving process shot will use the BG screen to show scenery behind a traveling automobile, speedboat, or airplane, etc. Dialogue scenes would be almost impossible to film satisfactorily in a moving vehicle, but it is possible and relatively simple for the director and cast when a screen can give the effect of movement.

Occasionally there is special action on the screen that the actors must play to harmonize. Forest fire scenes are often shot in process to protect the cast from flames and to reduce the amount of actual burning that must be done. Plates are made of trees burning and these are projected behind the actors. Smoke is pumped onto the stage and small firebrands are dropped from above to complete the illusion.

Makers of war pictures have utilized government combat footage for some of their process plates to strengthen the feeling of reality. And several war pictures have included excellent shots of anti-aircraft guns destroying enemy planes by first filming model planes that were made to explode in mid-air. In one instance an anti-aircraft gunner was placed before a screen on which planes were projected. The gunner aimed his weapon at the screen, fired blanks, and his target exploded in mid-air.

Color brings a few additional problems to process photography. The first is the high level of illumination required. Projectors that are primarily made for black and white process work must be used for just small or mediumsized screens if color is being shot in order to concentrate the light. If a large BG picture is desired, several projectors may be run together with an identical plate in each one. Triple-head projectors have been constructed by Mitchell for this purpose, with one machine pointed straight at the screen and the other two on either side of it pointed towards mirrors which reflect their light to the
The mirrors make exact registering of the three images a simple adjustment. The new high-speed Technicolor film, which can be exposed at an illumination level of 150 foot-candles, should stimulate the use of large-screen process in color, as well as will intensification of the negatives of two-color systems.

Matching color quality of the process screen and the foreground subjects is important. Errors that would be tolerated in regular color shots are unallowable when shooting process, for laboratory correction will affect both screen and foreground images if attempts are made to correct color error in either one.

One of the cleverest uses of Technicolor process photography was to be seen in a Danny Kaye film in which Kaye played a dual role. He talked with his "twin" and freely crossed before him. The twin image was projected on a process screen exactly life-size, while Kaye simply acted as though he were playing with a real person instead of the projected image on the screen.

Where process shots call for no motion in the background, the background scene usually is projected from a slide projector situated at the rear of the BG screen. Slide projectors offer the advantages of being easier to operate, present no problem of light flicker that must be synchronized with the camera, produce a brighter light with the same size arc, and do not require the use of film which has to be re-wound before retakes can be made.

Standards for process photography vary with each studio, but typical procedures have been outlined above. In recent years, producers of industrial and training films in 16mm have employed process with marked success. And in television, process shots are regularly used in many shows. In the newer field of three-dimension cinematography, the use of process has yet to be tried; but it goes without saying that process will be successfully adopted to this new type motion picture whenever producers of stereofilms are ready for it.

Faster Processing Service

Eastman Kodak Company is now returning all processed cine films to its customers by first-class mail. Previously, such processed films have been returned by third-class mail, unless the owner had requested and paid for better mail service.

No additional charge is being made for the new service. However, where the customer wishes his films returned by air mail or special delivery rather than by straight first-class mail, such special mail service charges must be prepaid when the film is sent in for processing.
**Current Assignments of A.S.C. Members**

**Allied Artists**
- William Sikkner, "Down Periscope," (Lindsay Parsons Prod.) with Mark Stevens, Bill Williams, Dorothy Malone. Lew Landers, director.
- Harry Neumann, "Kansan Mr. Pacific," (Gecolor) with Sterling Hayden, Evie Miller, Barton MacLane. Ray Nazarro, director.

**Columbia**
- Hal Mohr, "The Member Of The Wedding," (The Kramer Co.) with Ethel Waters, Julie Harris, Brandon de Wilde. Fred Zinnemann, director.
- Charles Lang, "Salome — The Dance of The Seven Veils," (Beckworth Prod.) (Technicolor), with Rita Hayworth, Stewart Granger, Charles Laughton. William Dieterle, director.

**Metro-Goldwyn-Mayer**

**Paramount**
- Frank Planer, "Roman Holiday," (Shooting in Rome, Italy) with Gregory Peck. Audrey Hepburn, and Eddie Albert. William Wyler, prodcucer-director.

**R.K.O.**

**20th Century-Fox**
Robertson, Thelma Ritter, Henry Levin, director.


Universal-International

- Charles Boyle, "Roughshod," (Technicolor) with Audie Murphy, Susan Cabot, Paul Kelly, Nathan Juran, director.
- Irving Glassberg, "Mississippi Gambler," with Tyrone Power, Piper Laurie, Julia Adams, John McIntire, Rudolph Mate, director.
- Russell Metty, "Seminole," (Technicolor) with Rock Hudson, Barbara Hale, Anthony Quinn, Richard Carlson, Budd Boetticher, director.
- Maury Gertsman, "Lone Hand," (Technicolor) with Joel McCrea, Barbara Hale, Alex Nicol, Charles Drake, George Sherman, director.

Warner Brothers

- Robert Burks, "The Desert Song," (Technicolor) with Kathryn Grayson, Gordon MacRae, Raymond Massey, Bruce Humberstone, director.

Independent

- Russell Harlan, "Ruby Gentry," (Bernhard-Vidor Prod.—20th-Fox.) with Jennifer Jones, Charlton Heston, King Vidor, director.
- Gilbert Warrenton, "Lost Women of Zarpa," (Howco Prods.) with Jackie Coogan, Chris-Pin Martin, Allan Nixon, Ron Ormond, director.

NOTE: Names of A.S.C. Directors of Photography who were engaged in the photography of films for television last month will be found in the "Television Production column" on page 364.
Television Film Production

More Convenience with Less Effort

PAR 400' Magazine for Cine Special

Consider the convenience of having 400 feet of film available for instant use, as well as the savings of time and effort formerly devoted to changing 100-foot film chambers, and you can readily see why the PAR 400-foot magazine is a "must" for your Cine Special.

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Write for prices and complete information on equipping your Cine Special with a PAR 400-foot magazine.

PAR PRODUCTS CORP.

JULY PRODUCTION ACTIVITY: The following cinematographers were actively engaged in Hollywood during the past month directing the photography of television films:

Lucien Andriot, A.S.C., "Rebound" series of half-hour adult dramas for Bing Crosby Enterprises, at RKO-Pathe studios. Also, two series of half-hour TV films for Lancer Productions, same studio.


John Boyle, A.S.C., "Big Town," series of 26 half-hour dramas at General Service Studios, for Gross-Krasne, Inc.


Nobert Brodine, A.S.C., "Racket Squad" series of half-hour telepix at Hal Roach Studios, for Showcase Productions.

Ellis Carter, A.S.C., "Mr. and Mrs. North" series of half-hour situation comedies for Federal TV Corp., Goldwyn Studios.

Dan B. Clark, A.S.C., the "Unexpected" series of half-hour telepix for Ziv Productions.


Curt Fetters, "Cisco Kid" series of half-hour westerns for Ziv Productions.

Elly Fredericks, series of half-hour adult dramas at Eagle Lion Studios, for Revue Productions.

Henry Freulich, A.S.C., series of half-hour dramas at Motion Picture Center, for Edward Lewis Productions.

Karl Freund, A.S.C., "Our Miss Brooks" series of half-hour comedies for Desilu Productions, General Service Studios.


Benjamin Kline, A.S.C., "Fireside Theatre" series at Eagle Lion Studios, for Frank Wisbar Productions.

John Martin, "Wild Bill Hickok" series of half-hour westerns at Sunset Studios, for William Brody Productions.

Joe Novak, series of 15-minute westerns at Goldwyn Studios, for Roy Rogers Productions.


Robert Pittack, A.S.C., "Lone Ranger" series of half-hour westerns at General Service Studios, for Jack Chertok Productions.

William Sickner, A.S.C., series of 13 "File of Jeffrey Jones" half-hour mystery telepix at KTTV Studios for Lindley Parsons Prods.

Mack Stengler, A.S.C., "Beulah" series of half-hour comedies for Roland Reed Productions, at Hal Roach Studios.


Walter Stronge, A.S.C., "Mystery Theatre" series, also the "My Little Margie" series of half-hour pictures at Hal Roach Studios for Roland Reed Productions.

Stuart Thompson, A.S.C., "Cavalcade Of America" series of half-hour dramas at Eagle Lion Studios for Screen Television Productions.

Phil Tannura, A.S.C., "The Burns And Allen Show," series of half-hour comedies at General Service Studios, for McCadden Corp.


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WHAT'S NEW
in equipment, accessories, service

10,000-watt Inkie — Mole-Richardson Company, 937 No. Sycamore Ave., Hollywood 38, Calif., announces "The Tener" — new Type-H6, 10,000-watt studio lamp which features a special 20" Fresnel lens, a completely adjustable a quick removable flange, which allows the raw stock to slip easily over the reel hub, eliminating need for winding tape or film on the reel.

Capacity is 1200 feet of 16, 17½ or 35mm, film. Price is $12.50 each for 16 and 17½ mm.; $15.00 for 35mm.

New Hollywood Film Lab—Thomas Emmett, veteran laboratory man and Ande Vail, film producer announce the opening of their new film laboratory — Emmett-Vail Enterprises, Inc.—at 6926 Melrose Ave., Hollywood 38, Calif. Lab is equipped to process 16mm and 8mm B&W prints, Kodachrome duplicates, make reductions from 35mm to 16mm for TV, and do 16mm to 8mm reversal processing.

Alzak aluminum mirror, and dual (front or back) focusing controls. Light source is a 10,000-watt G96 Mogul Bipost lamp. Twenty-five feet of loom-covered cable is furnished with stage plug. Finished in black enamel, lamp head weighs 117 lbs.; cable 16 lbs.; and the pedestal 37 lbs. The usual M-R accessories (barn door, diffuser frame, and shutter) are available for this new unit.

Lightweight Camera Dolly—Cinema Products, Louisville, Ky., announces a new, lightweight portable camera dolly for use with motion picture or television cameras. It provides two adjustable seats for camera operator and assistant, and has rubber-tired ball-bearing casters affording smooth movement over stage floor. Made in sections of lightweight tubular metal, dolly may be knocked-down or reassembled in a matter of minutes, and is easily carried in an automobile trunk along with camera and other equipment.

Trade Notes—Charles Ross, who for the past 30 years conducted the business of sale and rental of motion picture and TV lighting and grip equipment under business name of Charles Ross, Inc., died last month in New York.
 Everybody loves the star. She's the darling of the box office . . . the apple of the producer's eye. Her glamour is everybody's good fortune—an inspiration to writers, directors, cameramen—a responsibility to technicians.

In the studio, technicians frequently collaborate with representatives of the Eastman Technical Service for Motion Picture Film . . . consider the best type of film, black-and-white or color, to use . . . to set control systems for the laboratory that assure standards of high image quality. Help is also made available for exchanges, exhibitors to make sure that prints and theater equipment are right for finest projection—that every foot of film gets the star the best possible showing.

To maintain this service, the Eastman Kodak Company has branches at strategic centers . . . invites inquiry on all phases of film use from all members of the industry. Address:

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When you compare features, note the 100-foot film capacity, the 22-foot film run, the turret head that places three lenses at your fingertips, seven speeds including sound speed, parallax adjustment that corrects from infinity down to 3 feet, and the positive type viewfinder that lets you see what you take. Remember, too, every 70-DL is guaranteed for life.

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And here's a suggestion! Why not have a demonstration of the Filmosound 202 using your own sound film. In this way, you can prove to yourself the worlds of exciting possibilities that exist in making your own sound movies.

FREE SOUNDSTRIPE® of your first 100 feet of single-perforated film — that's what you get when you buy a new 70-DL...or have your present model 70 adapted. This is a special limited-time offer made by Bell & Howell to acquaint you with this wonderful new way to make sound movies.

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If you already own a Bell & Howell 70 camera, you can have it adapted to take single-perforated film as well as regular double-perforated film. This brings your camera right up-to-the-minute in usefulness. This is a factory conversion which you can arrange for through your Bell & Howell dealer for just $15.95. Same “free” Soundstripe offer applies.

*Soundstripe—the magnetic iron oxide stripe applied to single-perforated 16mm movie film for magnetic sound recording.

Prices subject to change without notice.
Shooting interior of storm-battered "Mayflower" for MGM's "Plymouth Adventure.

- Miniatures In Motion Picture Production
- Now--Magnetic Sound For All Cine Films!
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SEPTEMBER 1952
for every phase of motion picture work

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<th>FILM</th>
<th>TYPE</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td><strong>NEGATIVE TAKING STOCKS</strong>&lt;br&gt;“Superior” 1</td>
<td>904 B 35mm</td>
<td>A panchromatic film recommended for general exterior and process background work whenever the light is ample. An all purpose film for both exterior and interior production work. It combines fine grain, speed and wide latitude.</td>
</tr>
<tr>
<td>“Superior” 2</td>
<td>926 B 35mm</td>
<td>An all purpose negative for both interior and exterior use under limited illumination.</td>
</tr>
<tr>
<td>“Superior” 3</td>
<td>927 B 35mm</td>
<td>An all purpose negative for both interior and exterior use. May be processed as a negative or by reversal.</td>
</tr>
<tr>
<td>Panchromatic</td>
<td>914 A 16mm</td>
<td>A fine grain film of wide latitude for interior and exterior work. May be processed as a negative. Produces excellent results when reversal processed.</td>
</tr>
<tr>
<td>Rapid Reversal</td>
<td>930 A 16mm</td>
<td>A medium speed negative designed especially for rapid reversal processing. Widely used in television newsreel and sports photography.</td>
</tr>
<tr>
<td>High Speed Rapid Reversal</td>
<td>931 A 16mm</td>
<td>A high speed negative designed especially for rapid reversal processing. Used in television newsreel and sports photography under restricted lighting conditions. Emulsion is super-hardened to permit processing at elevated temperatures.</td>
</tr>
<tr>
<td><strong>DUPLICATING FILMS</strong>&lt;br&gt;Fine Grain Duplicating Negative</td>
<td>908 B 35mm</td>
<td>Exceptionally fine grain high resolution film designed specifically for duplicating work. Fully panchromatic.</td>
</tr>
<tr>
<td>Fine Grain Master Positive</td>
<td>828 B 35mm</td>
<td>A fine grain film for duplicate positives which may be exposed at release positive printer light levels and processed in normal release positive developers at normal developing times.</td>
</tr>
<tr>
<td><strong>SOUND RECORDING FILMS</strong>&lt;br&gt;Sound Recording</td>
<td>801 B 35mm</td>
<td>A high speed Variable Area or Variable Density recording film.</td>
</tr>
<tr>
<td>Fine Grain Sound Recording (VD)</td>
<td>815 B 35mm</td>
<td>A fine grain Variable Density sound recording film with an exceptionally high signal to noise ratio and freedom from 96 cycle effects.</td>
</tr>
<tr>
<td>Fine Grain VA Sound Recording</td>
<td>831 B 35mm</td>
<td>A fine grain film for variable area sound recording using white light. Responds well to high gamma development.</td>
</tr>
<tr>
<td>Fine Grain Sound Recording (H)</td>
<td>836 B 35mm</td>
<td>A low contrast fine grain sound negative for variable density recording designed for development in picture negative developers.</td>
</tr>
<tr>
<td>Fine Grain Sound Recording (H)</td>
<td>837 B 35mm</td>
<td>Same emulsion as Type 836 with non-halation base to increase sharpness of sound images.</td>
</tr>
<tr>
<td><strong>RELEASE POSITIVE FILMS</strong>&lt;br&gt;Release Positive High Speed</td>
<td>803 B 35mm</td>
<td>A high speed, normal grain film where release print speed is required. Excellent for making superimposed title prints.</td>
</tr>
<tr>
<td>Fine Grain Release Positive</td>
<td>825 B 35mm</td>
<td>For general release work and dubbing prints which require the optimum in picture and sound quality. Yields blue-black images.</td>
</tr>
<tr>
<td>Fine Grain News Positive</td>
<td>829 B 35mm</td>
<td>For fine grain news release prints.</td>
</tr>
<tr>
<td><strong>SPECIAL PURPOSE FILMS</strong>&lt;br&gt;Title Stock</td>
<td>805 B 35mm</td>
<td>A high speed film for title photography. Clarity of base makes it ideal for superimposed titles.</td>
</tr>
<tr>
<td>Fine Grain Low Contrast Positive</td>
<td>824 B 35mm</td>
<td>A fine grain film for photographing either negative or positive images from television monitor tubes. The low contrast of this film makes it especially suited for prints which are to be telecined. May be processed in picture negative or release positive baths depending on contrast level desired.</td>
</tr>
<tr>
<td>Fine Grain Background Projection</td>
<td>827 B 35mm</td>
<td>An extremely fine grain film of high resolution for background projection purposes. Yields a blue-black image of exceptional gradation and sharpness.</td>
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SOUNDstripe is a magnetic iron oxide striping which Bell & Howell applies to any 16mm single-perforated processed film—color or black-and-white, duplicate or original print. Recordings made on SOUNDstripe can be played back immediately . . . can be changed instantly and as often as desired.

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<th>For any 16mm silent movies on double-perforated film (including 16mm magazine-load film) taken at any speed, have duplicate prints made on single-perforated film. Have your dealer forward prints to Bell &amp; Howell for SOUNDstripe.</th>
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<td>silent movies</td>
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<tr>
<th>For optical sound movies, magnetic sound can be added by applying SOUNDstripe over half of the original track, a feature of the Bell &amp; Howell process that allows you to enjoy both optical and magnetic sound on the same film.</th>
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<td>optical sound movies</td>
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<tr>
<th>For your own sound movies, use a Bell &amp; Howell &quot;70&quot; camera or any 16mm camera that takes single-perforated film, shoot at any speed, have the film processed, then forward it through your dealer to Bell &amp; Howell.</th>
</tr>
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<tr>
<td>single-perf silent movies</td>
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Filmasound 202 records and projects at either 16 or 24 frames per second.

16mm Bell & Howell 70-DL movie camera

To order SOUNDstripe: Take your 16mm single-perforated film after processing to your Bell & Howell dealer for fast, efficient service. Price for SOUNDstripe is 3½¢ per foot. Minimum charge $10.50 for 300 feet or less in a single length. SOUNDstripe is now available on the West Coast through the Bell & Howell plant in Hollywood, Calif. This is an extension of the SOUNDstripe service at Bell & Howell, Chicago 45. Your dealer will be glad to give you any desired additional information on SOUNDstripe.

Bell & Howell makes it fun to make sound movies!
Ralph Edwards shoots his “Truth or Consequences” show with four Mitchell 35mm cameras. The program is filmed “live” in New York for later release on TV networks.

Westinghouse Electric Corp.’s “Summer Storm” is filmed by Ronald Reed Prod., Inc. This is one of over 130 films for Westinghouse Electric Corp. by this producer—all filmed with 16mm and 35mm Mitchell Cameras.

Over 30 years ago Mitchell made history with the introduction of the motion picture camera that was to set new photographic standards for a growing industry. Today, Mitchell 16mm and 35mm equipment is being used in every field of motion picture photography.

In the field of Television, Mitchell cameras continue to pioneer new techniques and standards. TV films shot with Mitchell cameras reach your home viewing audience clearer, sharper and steadier—to bring superior quality reproduction to the television screens in millions of living rooms. You can be sure that your television film, whether shot “live” or as an elaborate studio production... whether with one camera or ten, will be a better investment because it is filmed with a Mitchell Camera.

Today, as in the history-making years past, Mitchell 16mm and 35mm equipment continues to deliver the world’s finest films. You can count on Mitchell—the 30-year pioneer.

Snader Telescriptions uses three BNC Mitchells to make a Toni Arden film, one of 400 3½ minute programs shot last year by this organization with Mitchell cameras.

Procter & Gamble’s “Fireside Theatre” series is filmed by Frank Wisbar Productions, Inc. with a Mitchell BNC.

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85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell
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ON THE COVER

One of the most interesting sequences in MGM’s “Plymouth Adventure” pictures action below decks of the “Mayflower” during a violent storm at sea, when hurricane winds batter the ship, nearly capsizes it. Here the camera focuses on set of lower deck interior erected on studio sound stage. Deck was made to rise and fall with the storm by means of hydraulic equipment. Directing the photography is William Daniels, A.S.C.—Photo by Jim Manatt.

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Hollywood Bulletin Board

SWAMP STUFF—Cinematographer Russell Harlan, A.S.C., was in deep water most of the time when shooting exteriors for Winchester Productions’ “The Big Sky” in Jackson Hole, Wyoming. Here camera’s mounted on parallel at waterlevel and focused on actor Kirk Douglas. Harlan is crouched behind camera, lining up the shot, while producer Howard Hawks, on parallel, wearing waders, looks on.

A.S.C.’S ANNUAL DINNER AND DANCE honoring the wives of the Society’s members will be held at the A.S.C. Clubhouse in Hollywood the evening of September 13th. Motif for the affair this year is a surprise party in which each lady attending will receive a surprise gift.

Presentation of gifts will follow a buffet supper served on the clubhouse lawn. A dance orchestra featuring several specialty numbers will provide entertainment. A number of film stars currently appearing before various A.S.C. members’ cameras are scheduled to be on hand as honored guests.

GEORGE BARNES, A.S.C., embarked for Europe August 11th, where he is to direct the photography of “Little Boy Lost,” to be produced by Paramount pictures.

A CAMERA CREW from 20th Century-Fox flew to Argentina last month to photograph in Technicolor the funeral rites of Eva Peron, wife of the Argentine president. 20th-Fox was selected by the Argentine government as a result of that studio’s location jaunt to the Argentine for “Way Of A Gaucho” early this year.

Making the trip were Eddie Cronjager, A.S.C., Roger Shearman, Hugh Crawford and Technicolor technician Nelson Cordes.

CHARLES ROSHER, A.S.C., no sooner reached his island paradise rancho in Jamaica for a vacation when he received a cable advising he had been named to receive a fellowship award of the Photographic Society of America, and urging him to be on hand to receive it when the convention convened in New York City on August 12. Rosher was one of 24 P.S.A. members to be so honored this year. Fellowships are presented by the Society for outstanding achievement in photography accompanied by extensive public service.

RUDOLPH MATE, A.S.C., former cinematographer turned director, has been signed by Universal-International Pictures to a two-year non-exclusive contract calling for him to direct two pictures annually.

EDWIN DupAR, A.S.C., whose article on the new WarnerColor system appears elsewhere in this issue, is writing a book based on his experiences in photographing the first three films for Warner Brothers in the new color process.

HUMBERTO A. CORREL was a Hollywood visitor from Brazil last month. Correl, executive with Multi Films, Sao Paulo, purchased more than a quarter of a million dollars worth of cameras, lighting equipment, and accessories for his company’s studio to facilitate its plan for increased production in 1953.

Correl also supervised the processing by Houston’s color film lab of his company’s initial Ansco Color production, “The Gaucho,” to be released in both South and North America.

VIRGIL MILLER, A.S.C., hospitalized briefly last month for a minor operation, is presently gathering material for a book which he has tentatively titled “Splinters From A Hollywood Tripod.” Book will feature short stories and anecdotes about old time Hollywood cameramen and their experiences and thrills in shooting movies. Miller invites brother cinematographers to submit interesting story material, for which due credit will be given in the published volume.

VISITING HOLLYWOOD last month was Mathieu A. Bonifanti, head of Companhia Industrial Cinematografica, of Rio de Janeiro, Brazil. Bonifanti’s organization has film producing studios and laboratories in both Rio and Sao Paulo. Hollywood visit was for purpose of

(Continued on Page 414)
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The television boom—and particularly the recent trend toward putting major TV programs on film—poses the question: “What has all this done for the cinematographer?”

In Hollywood, TV film production has given work—steady work—to many cameramen, assistants and operators who formerly worked only occasionally. Today, there are about 30 directors of photography on contract with Hollywood TV film producers as contrasted with about 8 a year ago. The number of cinematographers regularly employed in the motion picture studios has decreased only by about 8%, indicating some decline in studio production—mainly the gradual elimination of “B” or second-feature films. Most of the men photographing TV films today formerly were major studio cameramen.

The present TV film production picture seems to bear out the predictions generally made by astute industry heads a year ago that television would eventually benefit rather than harm the future of the cinematographer.

Following publication of an article in last month’s issue which described MGM’s new jeep camera crane, it was called to our attention that previously Universal-International Studios had built and put into use a similar vehicle. While our article in no way implied that MGM’s Jeep camera crane was the first of its kind, and because we wish always to give credit where credit is due for technical accomplishments in the motion picture industry, we take this opportunity to cite U-I’s engineers for their earlier development of a Jeep camera crane.

While we have not seen U-I’s equipment, it is reported that MGM’s possesses many new and unusual features not found in other crane equipment. Engineers of both studios, incidentally, are leaders in the development of new and improved equipment for photographing motion pictures.

Two of the focal points of world interest in documentary and experimental films are at Edinburgh, Scotland and Venice, Italy where annual international film festivals take place. Each year these foreign festivals grow in stature, and presentation at each festival has become a coveted distinction among makers of non-theatrical films the world over. Many of the films entered are shown publicly for the first time and some receive their world premiere at Edinburgh or at Venice.

In order to expedite and coordinate the submission of American non-governmental, non-theatrical films for exhibition to both festivals this year and each year hereafter, the Film Council of America, 600 Davis Street, Evanston, Illinois, has been asked by the directors of both festivals to undertake the handling (evaluating and transmission) of such films originating in the United States.

All inquiries concerning either festival should be directed to Mr. Charles Bushong, of the FCA, at the above address.

The photographer using color film has just as much artistic freedom as a painter with his brush, Ralph M. Evans, a nationally-known color expert, told the annual convention of the Photographic Society of America in New York City last month.

Denying the charge made by artists that color photography is merely a mechanical device for recording a natural scene, Evans said, “The only thing mechanical about a photograph lies in the fact that ‘pressing the button’ makes permanent the image which the photographer has already created.”

Evans, who is superintendent of Eastman Kodak Company’s color control department, spoke on the subject, “Creative Directions in Color Photography.”

His lecture, illustrated by more than 100 Kodachrome and Ektachrome slides, was sponsored by the PSA’s Technical Division.

Evans told his audience that the subject matter of photography is infinite. It is limited only by the imagination and the capacity for feeling of the photographer, he said.

“What all good photographers do is use the medium creatively so that you will see a particular phase of a typical scene according to your own experience.”

Eastman Kodak Company has just announced a new infra-red raw film stock which literally permits motion pictures to be photographed in the dark with (Continued on Page 378)
Finer color motion pictures are made possible with the wonderful new Negative-Positive Process. Truer color, finer grain, superb definition, greater brilliance and depth are achieved, plus higher production flexibility. Houston-Fearless has developed processing equipment to achieve the maximum results from this remarkable new film.

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New Electronic Printer: For the reproduction of magnetic sound to 16mm either independently or in combination with picture prints.

New Control Strip Printers operate without notching original—produce fades and dissolves from A&B rolls—incorporate filter changes between scenes.

Precision Film Laboratories — a division of J. A. Maurer, Inc., has 14 years of specialization in the 16mm field, consistently meets the latest demands for higher quality and speed.

CLOSEUPS
(Continued from Page 376)
infra-red lamps for illumination, or in semi-darkness without additional illumination.

Tradename Kodak Spectroscopic I-N film, the new stock is described as having a total red speed greater than any other emulsion now on the market.

In tests conducted with the film at University of Rochester, according to Kodak, successful motion pictures were made of audience reactions when house lights in a theatre were dimmed to 1/70th of normal room illumination.

The new film can be used in any standard 16mm or 35mm motion picture camera, and is available in both rolls and 16mm magazines.

★
For the purpose of discovering and encouraging new creative talent for the Motion Picture Industry, an annual Screen Producers Guild Intercollegiate Film Award for the best motion picture conceived and created in the colleges and universities of the United States, has been established by the Screen Producers Guild in Hollywood.

Sixty-nine universities and colleges in this country, which have cinema and drama departments, have been invited to submit the student-produced motion picture which the individual school itself considers to be the best effort of its cinema department.

The submitted films will be judged in Hollywood by a special viewing committee composed of SPG members. The committee will then nominate the pictures to be screened at the Academy Award theatre for final Guild voting for 1st, 2nd and 3rd place. Later the three top films will be shown to an invited industry audience.

The university or college which submits the picture winning first place will be invited to send to Hollywood the one student it feels is most importantly responsible for the film. This student will be brought to the film capital as a guest of the Guild for one week, during which time he will have meetings with various film creators on all major lots. At conclusion of his visit, the student will receive the annual SPG Award medallion on behalf of his school and co-workers. The latter will each receive a scroll.

★
A simple 3-dimensional system for motion pictures has been developed by L. E. Thomas, Newcastle, Ind., cameraman-projectionist, who has announced he will publicly demonstrate system late in November. System does not require use of pola-spectacles for viewing.
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SYNCHRONOUS MOTOR DRIVE—110 Volt AC—
Single phase, 60 Cycle.
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Here's a picture you'll be hearing about long after it has run its customary course in the theatres, because it's definitely a nominee for an Academy Award next year in several categories—particularly the photography.

Skall, whose assignments lately have been on second units of large productions such as “Quo Vadis,” is all by himself on this one and his artistic lighting and skillful camera handling is immediately evident, especially in the song and dance numbers featuring Marge and Gower Champion, stars of the story.

He'd want us to credit his camera crew and grips for the assist given him on the intricate dolly and boom shots, so here's a plug for them, too.

“Oh, Everything I Have Is Yours” concerns the Champions, song-and-dance team married two years, and starred on Broadway in a musical of their own for the first time. Marge finds she's pregnant and while he's not called upon in this role to Monica Lewis, who later makes an excellent study for those interested in color photography.

George Wells produced the picture; Robert Z. Leonard was the director.


“Top Secret” is a dramatic international mystery story with its beginning in the gallant fight of the French under-ground, during World War II.

As the story unfolds, it uncovers one of the most clever of international spies. Ted McCord's photography aided by skillful lighting establishes and maintains the sinister mood of the story. Later, he's called upon to match the lighting, contrast, and camera angles of captured German footage which is intercut with his.

Rare motion picture made by the German Signal Corps during the war depicting the first Messerschmidt jet plane in action and of the initial V-1 pilotless bombs that fell on London late in the conflict were obtained by the studio for a sequence of “Top Secret.” It fitted correctly into the plot of the picture and shows the launching of the V-1 bombs from the French coast and flights of the first military jet plane.

In shooting the French channel sequences at Malibu beach in Southern California, McCord had to add riflemen to his camera crew in order to keep out of camera range a herd of seals who insisted on swimming past each time the camera was started for a scene of the beach.

An interesting photographic accomplishment is the close range photography of a small radio being shot up by rifle fire. A tommy gun shooting real bullets was used to get the realistic closeup shots.

Cornel Wilde, Steve Cochran, Phyllis Thaxter and Karl Malden are the principal players. Henry Blanke produced and Lewis Seiler directed.


In our review of U.I.'s “Yankee Buccaneer,” last month, we made the point that Russell Metty had come a long way with his color photography since first he began shooting Technicolor. “The World In His Arms,” further substantiates this. As with the former production, Metty has applied deft camera and lighting treatment to every scene in this picture, bringing them to the screen in superlative pictorial canvases.

But it is the special photography of the schooner race by Stanley Horsley that steals the show in the latter part of the picture. Foregoing the customary background projection process, U.I. sent their cameras out to sea to photograph the huge sailing craft in action. The follow shots are superb; the camera shooting from deck of another boat traveling alongside the two schooners keeps the framing steady in every shot. A new type camera mount, details of which are closely guarded by the studio, made the unique shots possible.

Ann Blyth and Gregory Peck star in this Rex Beach favorite which has to do with two rival schooner captains who poach seal skins from the Pribalof Islands for a living and bid for the favor of the Russian Countess (Blyth).

Aaron Rosenberg produced for Universal-International; Raoul Walsh directed. And a fine job he did, too.


Except for a brief opening sequence, all of the action of “Plymouth Adventure” takes place aboard the Mayflower, the famed vessel that brought the Pilgrim Fathers and their families to America in 1620. This is the film story of that voyage and of the drama interwoven with the privation and suffering endured by the pilgrims and the Mayflower's nondescript crew.

Fully one-fourth of the footage is miniatures, or played against background shots in miniature, and it is this phase of the production that outweighs all the rest, technically. The degree of realism achieved by MGM’s miniature and process department is of Academy Award caliber. Especially are the storm scenes in which the Mayflower is tossed about by giant waves the best ever produced anywhere. (More about this phase of the production appears elsewhere in this issue. Editor.)

The rest of the production is expertly photographed by William Daniels, who returned to the MGM lot after a long absence to photograph the picture.

Spencer Tracy, Gene Tierney, Ann Blyth and Leo Genn head the excellent cast. Dore Schary produced and Clarence Brown directed this MGM production which is among that studio’s best for 1952.


Here is a production that proves that, with a skilled cameraman, adverse lighting is no serious problem in Technicolor photography. “The Quiet Man” was filmed in Ireland, where clear, sunny days are a rarity and overcast skies the rule. Under these conditions, Winton Hoch has captured scenes of the Irish countryside that beggar description. Moreover, the refreshing vistas inspired Hoch to achieve magnificent pictorial compositions and these together with the excellent story and fine cast make this one of the “must” pictures of the year.

John Wayne, a retired American prizefighter returns to Ireland, land of his birth to buy the old ancestral home (Continued on Page 414)
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Editor's Note: WarnerColor is a negative-positive process, utilizing the new Eastman color films in which the natural colors of the scene photographed appear in their complementsaries on the developed negative.

Prints can be made by two methods: either by contact on positive color stock or by making three color-separations on fine-grain panchromatic stock with proper filters, then printing from the separations in technique similar to lithography.

The speed factor of the new WarnerColor is 16, as against 12 for Kodachrome, making the former half a stop faster.

The development of WarnerColor has been pursued in two directions—in photography and in the film laboratory. In the former, Warner Brothers' top directors of photography have lent their talents and knowledge of the photographic art. On the laboratory side, Fred Gage, A.S.C., Warner's lab head, mothered the process to its present state of perfection. The process is exclusively Warner Brothers'. No plans for making it available to other studios have been announced.

WarnerColor has become one of the most talked-about color film processes in the motion picture industry. At this writing, four pictures have been completed at Warner Brothers studio in the new WarnerColor, and we now can look back and evaluate the progress that has been made with this new and remarkable process.

I directed the photography on three of the initial four productions, and I sincerely believe that WarnerColor is the finest color film we have in the industry. It is certainly the most satisfactory that I have used in thirty years as a motion picture cameraman.

The colors are natural and true. Definition is extremely good, and extraordinary in shadows. Photography can be carried on in any weather. Extreme highlights do not bother the eye because glare is absent, even in intense sunlight or in a snow background. The film is unusually sensitive; it can be handled in the laboratory as easily as black and white film. No special equipment is necessary and rushes may be viewed the next day.

The tremendous progress the studio has made with the
process is exemplified in “The Miracle of Our Lady Of Fatima,” the third WarnerColor picture now in general release. When I was assigned to direct the photography of “Miracle” I discussed the matter of makeup with director John Brahm and producer Bryan Foy, and it was determined that little or no makeup would be used on the players. Most of the cast represented peasants and children, and none wore makeup. Even when filming the crowd scenes, we asked the women to first remove their street makeup—lipstick and rouge. This produced improved photographic results, because the true colors of the players’ features were brought to the screen.

A companion development in the WarnerColor process has been a new makeup for use with the film. Gordon Bau, head of Warner’s makeup department now has a light cosmetic

(Continued on Page 402)
Miniatures In Motion Picture Production

Miniatures provide backgrounds or action scenes that are impossible or impractical to obtain in any other way. Their use no longer is confined to feature film production; makers of TV and industrial films also have found miniatures the answer to many photographic problems.

By ARTHUR ROWAN

The use of miniatures in motion picture production has a two-fold purpose: to accomplish certain action which would be impossible or impractical to produce and photograph full size, and to provide backgrounds or settings which otherwise would be too elaborate or costly to reproduce or photograph normally. Usually, the reason miniatures are resorted to is because there is no other way to shoot the action. In other words, you can’t deliberately crash a full scale ship or plane, make a tornado perform just for the camera, nor duplicate an atomic bomb explosion—all of which is routine work for a studio miniature department.

The shooting of certain action in miniature has come to be common practice with producers of motion pictures in all fields. Today almost every major film studio has at least one miniature project going all the time, because a great deal more time is required in planning construction, then photographing the miniature set than in filming the rest of the picture.

One of the most noteworthy miniature projects was that associated with the recently completed MGM production, “Plymouth Adventure.” The miniature photography in this picture comprises 25% of the entire picture footage—some of the lengthiest on record for a single feature motion picture production.

A great deal of the action in “Plymouth Adventure” concerns the crossing of the Pilgrims to America in the Mayflower and in her sister ship, the Speedwell. In the crossing, the boats encounter a violent storm at sea, during which the high drama of the story takes place. Obviously, staging a storm-at-sea with full scale ships was out of the question. Not only was it impractical from the standpoint of cost, but also for technical personnel and cast. As a result, the Mayflower and Speedwell were built in miniature, launched in the studio’s “miniature tank” on lot three, and photographed with utmost realism in calms...
EXAMPLE OF TODAY'S best miniature work is to be seen in Metro-Goldwyn-Mayer's current Technicolor production "Plymouth Adventure," 25% of which employed miniature sets and props. Above are two views of miniature sets during construction stage. Circled are three workmen on set, which shows relative size. Sky is painted backing and the "sea" is but 36 inches deep. Both sets were erected on same site.

and storms—the latter manufactured by studio technicians using tons of water and wind machines.

The building of miniatures and miniature sets is today a highly specialized art. It is usually carried on by a separate and entirely self-contained department, the head of which works in close contact with the studio’s supervising art director, and with the special photography or process department whose personnel photograph the completed miniature sets. At Metro-Goldwyn-Mayer studios, Buddy Gillespie heads up the Special Effects department, Head of the Miniature department is Don Jahraus; and Carroll Shepphard handles process. Together, these three men plan and direct or supervise the execution of all miniature work at MGM. No less important is Max Fabian, A.S.C., who directs the photography of all miniatures and who frequently is assisted by Harold Lipstein, A.S.C., in this specialized work.

The success of miniatures in motion pictures depends upon a happy combination of photographic, artistic, and mechanical effects, and since all of these factors enter into the design of every miniature, the miniature technician must have extensive first-hand understanding of all three. He must be sufficiently an artist to make his miniatures harmonize with the full-scale settings of the picture, sufficiently a photographer to be able to design his miniatures for the camera, and enough of an engineer to be able to design efficient, workable miniature properties.

Each individual miniature setting is a separate problem, according to Buddy Gillespie. "There can be no blanket rules laid down for their construction," he said. "Even the size and scale will vary from miniature to miniature. One cannot merely say, 'all miniatures should be made to such and such a scale.' Instead size and scale must be determined for each individual miniature project, to afford the exact effect desired with the most workable size."

Cost is, by no means relative to size. As a rule, large size miniatures are less costly to construct, and they give the cameraman greater latitude in which to work. Therefore, the designer, in determining the scale and size to be followed, must consider the optical possibilities of the equipment used, particularly lens angles and depth of focus. Depth of focus is a highly important factor in short-range miniature work.

The miniatures of the Mayflower and the Speedwell were built in two different scales. The Mayflower was constructed on a scale of 3 inches to one foot, whereas the Speedwell was made just half the size—on a scale of 1½ inches to one foot. The boats were so constructed that slight changes could be made in the rigging and in some detail of the Speedwell to give it the appearance of the Mayflower for doubling in the storm scenes. By using the smaller ship for (Continued on Page 400)
Camera Fill Lights

Small lighting unit mounted on camera provides uniform illumination on subject when filmed in closeup or dolly shot.

By FREDERICK FOSTER

AN ELABORATE fill light unit designed especially for color photography. Robert Surtees, A.S.C., standing left of actor Stewart Granger, used the light in filming closeups for Metro-Goldwyn-Mayer's "The Wild North."

A VERY PRACTICAL use of camera fill lights is demonstrated here. Two units, mounted on brackets extending from either side of camera, supply adequate fill light on players as they descend stair, with crane-mounted camera following the action.

MAURY GERTZSMAN, A.S.C., Universal-International cameraman, uses improved camera fill light which has switch controls for each lamp, side exhaust for lamp heat, and spun glass diffuser. Unit may be mounted above or below camera lens.

IN MOTION PICTURE photography, one of the most controversial lighting units is the camera fill light. This is a small incandescent unit mounted on the camera, either above or below the lens, for the purpose of supplying illumination of moderate intensity on players when making closeups or dolly shots.

Some cinematographers never use the lamp; others would never shoot a closeup without it. This is not to say that some cameramen are ignorant of the lamp's possibilities, but simply that it does not fit in with their particular style of lighting.

Use of the lamp originated about the time the camera dolly and the tracking shot came into general use. The moving camera limited the use of floor lamps immediately before it. It was logical as a result to hang a lighting fixture on the camera to supply fill light as it moved in on a closeup. To decrease the lamp's intensity as the camera moved toward the player, it was gradually shaded through use of a dimmer switch.

If you ask the average director of photography the name of this lighting unit (all set lighting units have a popular monicker) few will be able to answer other than a "filler light." Many of them have forgotten two popular terms applied to it years ago—"lupe" and "coed." Carl Freund, A.S.C., is credited with naming the lamp a "lupe" after using it in photographing the late Lupe Velez. Once she saw the improvement in her closeups use of the lamp wrought, she demanded it be used on all her closeups thereafter. It thus became common practice for Freund to call for a "lupe" whenever the camera moved in for a closeup of Miss Velez.

The same type lamp also acquired another name—"coed"—at Metro-Goldwyn-Mayer studios. Who tacked this label on it, no one seems to remember; but the lamp is a popular item of lighting equipment with most all cameramen at that studio.

Over the years, the camera fill light has assumed a variety of shapes and sizes. Today most fillers are about the same size and design, and are usually made by each studio's mechanical department. Constructed of sheet metal, the lamp is box-like in shape—about 7 by 12 by 6 inches—and is

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In high-speed cinematography, it has been found that by concentrating the light source on the subject, it is possible to take high-speed pictures at rates which at one time were considered impossible. In discussing the subject of high-speed photographic lighting, it is assumed that photography is to be done at speeds of 14,000 to 16,000 pictures per second, using a lens stop of approximately 1/8. The development of suitable lighting units for this purpose has always been an intriguing one, and we are always striving to get better and better lighting for use in high-speed photography of subjects in both large and small areas.

For outdoor photography, the Master Designer, of course, has provided us with a potent light source in the sun. I have seen high-speed motion pictures made out-of-doors in shadow at rates up to 14,000 pictures per second, and fully-lighted pictures at rates up to 7,000 pps. We have taken high-speed motion pictures of shells in flight at 5,000 per second on cloudy days and gotten excellent detail. In the New Mexican desert and in Arizona and California wastelands, high-speed motion pictures in color are obtained at rates up to 1,000 pps in daylight. A peculiar thing about daylight in our Southwest desert areas, summer or winter and between nine a.m. and three p.m., is that the light value on a clear sunny day varies between 9,500 and 10,500 foot candles. Therefore, for subjects which are reasonably large, it is obvious that, for the present, sunlight is the answer whenever one asks: “How do we light an area 7 ft. by 7 ft., in order to photograph at the rate of 14,000 pictures per second?” There have been instances where powerful army searchlights have been used to augment lighting and to emphasize specific points of interest in making high-speed pictures out-of-doors, but usually this is where it is desired to primarily cover a small area alone, and where exceptional detail is required.

Therefore, with the film latitude that is available today, one does not have to worry particularly about exposures out-of-doors with high-speed motion picture cameras. Exposure, of course, is more critical with color and reversal-type films than with negative emulsions, which permit one to control more easily the relationship between density produced in the developed image and exposure. The reversal processes as used for color films and reversal black-and-white are oftentimes quite tricky.

As for the use of incandescent light for high-speed motion pictures, the suggestion often has been made that mercury arcs, especially the high-intensity type, be used. However, it has been found that mercury arcs, or any arc light operating on alternating current, is very sensitive to the pulsating current, with the result that the light volume will respond accordingly, going up and down in intensity (in the case of sixty-cycle current) one hundred and twenty times per second. The mercury arc operating on alternating current is never completely extinguished, but the alternately lightening and darkening of the picture which results is a very disturbing factor. There have been no satisfactory DC circuits developed thus far for use with lamps of this type.

The familiar photoflood lamp is the lighting unit most generally recommended by users of high-speed motion picture cameras. This lamp literally throws light all over the subject and subject area. The relative brightness of the photoflood lamp as compared with other types of incandescent lamps now on the market, may be as low as one-thirtieth the intensity when such lamps are at an equal distance from the subject. The incandescent lamps, such as photofloods and reflector-spots, when burned above normal voltage, do not show any effect of the pulsating 60-cycle AC current, even though there is apparently a slight interval of “cooling” that takes place as result of the pulsating current. These lamps also burn at a color temperature suitable for color photography. Any deviation in the color temperature—which invariably is slightly above the established figure—

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Wheels That Still Turn Backward

Avoiding the trouble is simply a matter of mathematics or use of a shutter-reflex type of camera, says British technician.

By R. Howard Cricks, F.B.K.S., F.R.P.S.

In all types of films, from features to newsreels, one still sees the elementary fault of wheels standing still or going backwards. Several particularly flagrant examples occurred in "The Card" (British production), where the effect was aggravated by the fact of Alec Guinness's quaint vehicle appearing in full side view. Even "The Greatest Show on Earth," with all its wonderful special effects, was not free from the fault, which in most war films is displayed also on the tracks of tanks.

When an aeroplane propeller is swung it passes through the phases of appearing stationary, and then of going alternately backwards and forwards, until it settles down to a blur. In actuality films, the fault is generally unavoidable; but in all staged productions its avoidance is merely a matter of a little forethought, plus either some elementary mathematics or a shutter-reflex type of camera.

The fundamental cause of these stroboscopic effects is quite simple. If in the 1/24th second from one exposure to the next a wheel turns the exact distance from one spoke to the next (Fig. 1), then the spokes will appear stationary. If in that time it turns slightly less than the space of one spoke (Fig. 2), the wheel will appear to move backwards, because the eye would sooner believe that one spoke has moved a short distance backwards than that the previous spoke has moved nearly the distance to the next spoke.

If in the 1/24th second the wheel has moved exactly half the distance from one spoke to the next (Fig. 3), the wheel will appear to have double the number of spokes, which will be stationary. At any speed less than this, the illusion will be correct.

Mathematically, these facts can be expressed by simple equations, in which \( V \) is the speed of the wheel in revolutions per second, and \( n \) is the number of spokes. Spokes will appear stationary when

\[
V = \frac{24}{n}
\]

At any speed slightly less than this, the spokes will appear to move backwards. The spokes will appear to be double in number when:

\[
V = \frac{12}{n}
\]

The requirement for a correct illusion is:

\[
V < \frac{12}{n}
\]

In theory, stroboscopic faults can also occur at higher wheel speeds, but movement blur usually makes such faults unnoticeable.

As an example, if a 12-spoked wheel turns at exactly two rps, the spokes will appear stationary; if it turns at \( \frac{11}{2} \) rps they will appear to move backwards; if

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The above article is reprinted from "British Kinematography" magazine, London, England.
Filming The TV Dramatic Featurette

Videofilms must have all the technical quality the public has come to expect in theatrical films.

By HERB A. LIGHTMAN

A survey of TV network programming for the past six months reveals the startling fact that while dramatic film series amount to just 10 per cent of total network viewing time, these programs hold the lead in viewer popularity by a wide margin. Among those at the top of the list are Fireside Theatre, Dragnet, Big Town, Gangbusters, Gruen Theatre, I Love Lucy, The Lone Ranger, Mystery Theatre, Racket Squal, the Roy Rogers show, Sky King, and the Stu Erwin Show.

It has now been proved to many who were watching and waiting that a live TV show can never have the technical quality and finish of a well-made film, especially when it comes to a dramatic show. The director is at the mercy of too many mechanical failures. Poor camera handling, badly timed “editing” by the Technical Director, and fluffs by the actors—all go out over the air with no possibility for retakes. As a result, there is a rapidly developing trend toward putting dramatic shows on film. The latest top dramatic show to switch from live to film is the Schlitz Playhouse, and several others are planning to follow.

It is a fact, also, that viewing audiences are becoming more critical, not only of program content, but of technique as well. Audiences now demand quality comparable to that which they are used to viewing on their theatre screens. The burden of developing the mechanical techniques necessary to achieve such quality has naturally fallen on Hollywood, and specifically upon the cameramen of A.S.C. and other technicians who have adapted the know-how of forty years of filming to meet the demand of the new medium.

After several years of trial and error on the part of the producers who pioneered the filming of the dramatic featurette for television, certain techniques can now be considered standard operating procedure for achieving the best results in this type of production. We can now set these down as guideposts for producers currently entering the field, and for those who will do so at a later date to satisfy the ever-growing audience demand for well-made TV dramatic shows.

The production of dramatic featurettes for television requires a special approach. We must remember that with
only a relatively small number of stations now operating, budgets must be kept low. Production must be rapid in order to fulfill contracts of 13 to 52 weeks, and certain technical concessions must be made to the mechanics of the television medium.

As in any other motion picture, the dramatic featurette filmed for television has its basis in the script. Generally speaking, one should avoid plots which are too complicated, since time limits will not permit full development of complex sub-plots. Actually, in the average film scaled to fill a half-hour time slot, there is just about time enough to fully develop and resolve one central plot line. While minor digressions from the main series of events will add variety, any major tangent will only detract from the force of the program.

By the same token, it is unwise to use too many characters in the short dramatic film. Not only is a large cast expensive in terms of salary, but it is also harder to get really finished performances from a large cast on a tight shooting schedule. From the audience's point of view, it is confusing in a short running time to have to identify and keep straight in one's mind a whole host of characters. A small cast, limited to two or three main players, will permit the director to work more carefully with each actor, and will keep the plot pattern clear for the audience.

A bit of fantasy in the television featurette is sometimes valuable for variety, but it should be used with caution—always bearing in mind the fact that there are those who tune in late on a program and who would be at a complete loss to understand a subject or technique that is too far-fetched.

Because action in the TV dramatic film cannot have quite the scope of that which we are used to seeing on theatre screens, a greater load is placed on dialogue. For this reason dialogue should be specially well written, using a generous amount of imagery to add to the actual picture which the audience sees. There should, however, be sufficient action so that the plot does not become "talky." Rules of dramatic construction characteristic of the one-act play also apply to the dramatic featurette, but with one major difference: since television is a commercial advertising medium, most shows are slanted for commercial sponsorship. In most half-hour shows there is a commercial spot at the beginning, one in the middle, and one at the end. For this reason the dramatic featurette filmed for television should reach a definite sub-climax near the middle, so that a commercial can be inserted, and so that the thread of the

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**Television Film Production**

*By Leigh Allen*

**Dan Jenkins**, radio-television editor for the industry tradepaper, Hollywood Reporter, revealed some interesting statistics on TV film producers in a recent column. Jenkins started a card file back in January, 1951, which contains a listing of every Hollywood TV film producing company announced since then, complete with titles of announced series, etc. Thumbing through it one day last month, Jenkins found the following rather frightening facts: 55 companies no longer in existence; 106 series which never got beyond the pilot stage, if indeed they ever got that far. He contrasts this with his current data which shows today's best possible estimate of the situation: 36 companies with a total of 44 TV series either completed, shooting or definitely in preparation; some 21 additional companies involving 25 "announced" series whose present status is, to say the least, doubtful.

"A year ago," says Jenkins, "it used to be the custom to announce that four different series would go under way at Pretzel Productions starting early next month (it was always 'early next month'), but even those outfits which have made a go of it have tended to cut their series down to one for the most part, with only four existing companies having as many as three different series actively in production or in preparation . . . . We have a hunch that by this time next year . . . . only a handful of hopeful amateurs will be hanging around the fringes and new entries will be solidly backed by money, experience and material."

**James Van Tres, A.S.C.**, has been signed for his third straight year as director of photography for Filmcraft Productions, producers of the Groucho Marx TV show on film.

The major broadcasting chains (CBS and NBC) last month announced they will not enter TV film production, but will leave that production to others.

**Screen Producers Guild Journal**, last month predicted that the steady gobbling up of film production manpower by television may soon create a serious shortage of such talent in the major studios. Already, Local 659 of the International Photographers, Hollywood, is frequently hard pressed to supply camera operators and assistants.

**Fred Jackman, Jr., A.S.C.**, and his Fred Jackman Productions Organization will photograph the coming Red Skelton TV shows on film. Show series will be produced by Key Productions, subsidiary of the Russell Seeds advertising agency.

Key Productions has acquired lease on one entire stage on Eagle Lion lot, and has completed $100,000 remodeling job on the stage, which includes accommodations for 250 spectators.

Jackman has designed a special remote control board for his cameras—by which he can turn cameras on and off individually, put a cue mark on the sound tape as an aid to cutting.

Fred Jackman last year photographed the commercials for the Skelton TV show. His deal with Key Productions runs for period of seven years.

**Gil Warrenton, A.S.C.**, has been signed by United World Films as director of photography on all TV film commercials.

**John Boyle, A.S.C.**, is first cameraman to use the recently introduced Kinevox Scene Slater, which automatically brings miniature slate before camera lens and records clap-stick cue mark. Boyle has used device on "Big Town" TV films.

**August TV Film Production**: The following cinematographers were actively engaged in Hollywood last month directing the photography of TV films:

- Joseph Biroc, A.S.C., Marion Parsonnet Prods.
- Norbert Brodine, A.S.C., Showcase Prods., Hal Roach Studios.
- Ellis Carter, A.S.C., Federal TV Corp.

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Now--Magnetic Sound
For All Cine Films

Several new and interesting developments in magnetic recording for both 8mm and 16mm promise a resurgence of interest in amateur movie making.

By JOHN FORBES

There’s lots of good news for movie amateurs these days, and it all has to do with the application of magnetic sound to home movie films. First there is the announcement of a new development by Bell & Howell whereby it no longer is necessary to have dupe prints made of your films in order to provide Soundstriping for magnetic recording. This means that now you can have Soundstripe magnetic track applied to any and all of your old 16mm films for recording and playback on the recently introduced Bell & Howell model 202 magnetic recorder-projector.

Until now, it has been necessary to first have a duplicate print made of 16mm films on single perforated (sound) stock, which afforded space on the unperforated edge for Soundstriping. The total cost was about 12½¢ per foot, or $50.00, to copy a single 12-minute silent color movie for sound. Now you can convert your old films directly to sound for only 3½¢ per running film foot, which is the cost of Bell & Howell’s Soundstripe service.

It also means it is no longer necessary to shoot 16mm films, for later application of magnetic sound, with cameras having sound sprockets, i.e., having a single row of teeth; in other words there is no need to have your present camera altered to use single-perforated 16mm film, if you use a Bell & Howell recorder-projector and Bell & Howell soundstriping service. Silent film exposed in all types of 16mm cameras (both magazine and roll film) can now be striped for magnetic sound.

The problem which Bell & Howell had
(Continued on Page 399)
Get sparkling, sharper movies with finer Ansco Hypan!

You’ll be delighted with the brilliant, crisper movies you get with this famous Ansco black-and-white film!

Ansco Hypan Reversible offers good speed (Exposure Index of 40 for daylight, 32 for tungsten), and gives you the fine-grain images with inherently brilliant contrast that put new snap and sparkle on your movie screen.

There’s real economy, too, in Hypan’s low price—important savings that let you take more first-quality movies for your money!

You’ll find this finer, Ansco Hypan Reversible Film for 8 and 16mm cameras, at photo dealers everywhere.

Ask for
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ANSCO, Binghamton, N. Y. A Division of General Aniline & Film Corporation. “From Research to Reality.”
LENGTH OF EACH SCENE should be determined at time of photographing it in order to insure adequate footage for cutting and intercutting. Briefly, scene length depends on how long subject or action will sustain interest on the screen.

How Long Should A Scene Be...?

Much depends upon the subject; but scenes should be long enough to convey what you wish to tell, short enough to keep the film well paced from beginning to end.

By LEO J. HEFFERNAN
Photographs by Author

How long could you listen to a concerto or a symphony in which all the notes were of the same duration? Likely not for long, because the monotony would soon prove unendurable. For the same reason, movies in which all scenes are of the same length and duration on the screen are apt to become boring. The professional film maker, of course, knows this, but here is an important secret of movie making that all too few amateur movie makers have discovered and put to use.

How long should a scene be? This is the $64 question that only experience and study can furnish the answer. But every movie amateur should have the answer if he expects to make successful films. This is not to say that the average amateur movie is composed of scene after scene all the same length. Most of the scenes vary in length all right, but too often the individual scenes are not photographed or edited to the length suitable for the sequence into which they are cut.

Why should scene length concern the amateur filmer when he sets out to shoot his movies? Because unless he considers the correct length the scene should be when finally edited, he's likely to make the scene too short, or over shoot and waste valuable film. There are two occasions then when the amateur should be concerned with scene length: when planning then shooting the scene, and when editing it into the film as a whole.

Someone once said that "Brevity is the soul of wit." Certainly it is the essence of good movie making; yet many amateurs carry brevity to extremes and make all scenes too short. When it comes time to edit the footage, there is little or nothing that can be done to gloss over the missing footage.

If good movie making were simply a matter of brevity, there would be no problem; in that case all scenes could be scissored down to bare essentials. But here we would be disregarding tempo—an important factor in putting movies together at the editing table. Just as tempo is given to music by altering the duration of the notes, so movies are given a measure of visual tempo or pace by altering the length of individual shots according to their relation to the sequence or picture as a whole. Whether you realize it or not, every picture you see on theatre screens has been edited with an eye for tempo—something you can discover for yourself by timing the individual "cuts" as a feature film unfolds on the screen.

Good film editors are able to develop definite tempos or beats in a picture simply by varying the length of the scenes which go to make up a sequence—and this technique applies to amateur as well as professional films. Perhaps this technique can be more clearly defined in the following sequence analysis of a film recently produced by an amateur group. The sequence depicted action occurring in a street accident, as follows:

Scene 1: (9 seconds) Long shot from a third-story window, looking down street. In middle of street is an automobile in front of which a group of people is gathered and ostensibly looking down upon a victim struck by the car. Other people are running toward the scene.

Scene 2: (7 seconds) Medium shot from different angle showing police officer attempting to restore order.
Scene 3: (5 seconds) Medium closeup of boy lying on pavement in front of car.

Scene 4: (9 seconds) Medium shot, front of house across street; 12-year old girl leaves door and starts down street. Sees crowd of people gathered at scene of accident — turns and walks toward gathering.

Scene 5: (11 seconds) Medium shot. At fringe of crowd, girl tries to push through but cannot. She turns and questions a bystander. He indicates he does not know what’s going on.

Scene 6: (6 seconds) Long shot of street. Ambulance speeds around corner into the street and moves toward scene of accident.

Scene 7: (8 seconds) Closeup of girl, Ambulance in background; doctor alights and moves toward crowd. Girl appears disinterested, then glances quickly over her shoulder toward ambulance. Her face brightens, indicating she has an idea.

Scene 8: (12 seconds) Medium shot, looking toward ambulance; doctor with firm grip on his bag, walks toward crowd. As he nears, people open up a passage for him. Little girl sneaks in right behind him, and the two are engulfed by the crowd.

Scene 9: (5 seconds) Closeup (from low angle) of girl, now in front row of curious onlookers. Suddenly looks down directly at camera.

Scene 10: (6 seconds) Reverse angle shot from girl’s position, looking down. Boy on pavement, doctor kneeling beside him. Doctor reaches over to get something from his bag, thus momentarily revealing boy’s face to view.

Scene 11: (4 seconds) Little girl sees boy, recognizes her brother. Registers alarm. Is stunned momentarily as she screams. She turns and fights her way out of the crowd.

Scene 12: (10 seconds) High angle medium shot. Frightened girl emerging from crowd. Camera follows her as she runs across street to her home.

Scene 13: (13 seconds) Medium shot. Boy on stretcher is being placed in ambulance. Door is closed quickly as doctor climbs aboard and the ambulance starts to move away. (Fadeout.)

In this example, scene lengths vary from 4 to 13 seconds. There is one each of 4, 7, 8, 10, 11, 12 and 13 seconds duration, and two scenes each of 5, 6, and 9 seconds duration. In timing the scenes in the cutting, there was but one consideration: the action within the scene.

Here, tempo in the sequence is illustrated by the manner in which the pace of the events were controlled in the various cuts. What we see is an accident that took place on a normally quiet residential street as a boy walked leisurely home.

(Continued on Next Page)
from school. The early scenes, even after the accident is discovered, are relatively slow paced, but when the little girl discovers that the victim is her brother, the drama of the situation is immediately heightened — thrown into high gear, so to speak — by quicker, shorter cuts that cause the audience to react to the situation unfolding on the screen.

When photographing staged action such as described above, the experienced cine photographer will shoot all of the important scenes a second time from a different camera viewpoint in order to provide the cutter (or himself) with adequate footage for cross-cutting in editing. These shots make possible shortening the individual scenes which cover continuous action. Thus, if the tempo should be fast, but the business of the scene is prolonged, the staged action may still be shown in its entirety by cross-cutting from one viewpoint to another and in this way minimize the dragging effect of overlong action if shown in one continuous shot. Thus, cross-shooting is insurance against the need for speeding up, or shortening tempo in the editing of a film. Conversely, footage can be added to extend the action if it is desired to slow the tempo down.

Up to this point, we have considered only the length of scenes which call for human or other action, as in a play. Before turning to subjects more in line with typical amateur movie making, it might be well to sum up what has been revealed thus far:

1. In photoplays, news-reels, travelogues, or home movies, if there is action within the scene, the length of the scene will depend upon the duration of the action.

2. The overall action is broken down into long shots, medium shots, and close-ups, so as to tell the story with greater clarity. This time-honored treatment tends to shorten the individual “takes” or scenes, the duration of which will vary greatly.

3. Varying scene lengths within a sequence furnishes a pulse or beat which relieves the monotony as one scene replaces another on the screen. Thus, there will be no sameness in the tattoo scene length beats upon the subconscious mind of one’s audience.

4. Tempo influences the cameraman (or the film editor) when he is determining the length of the individual scenes, because long scenes slow down tempo whereas short ones quicken it. In cases where the action-within-the-scene determines the length of the scene, such action must be lengthened or speeded up in accordance with tempo requirements.

5. The affinity which exists between tempo and scene length is of the greatest importance in sustaining interest in any film and it is used effectively in building up suspense in dramatic sequences and in the timing of gags in comedy routines.

6. The cross-shooting of important scenes of long, continuous action is advisable because it provides “ace-in-the-hole” footage which may be vitally necessary in editing. Its use in cross-cutting permits changes in tempo.

Embryonic cameramen may be forgiven for wanting someone to tell them exactly how long a scene should be if they are starting out “green” with little or no training in movie technique. Film is expensive. Shots that are too long waste money, too, for they truncate interest on the screen.

Recently, a cine club bulletin offered this advice regarding cutting and editing: “Scenes should be long enough to convey what you wish to tell. Scenes should not be less than four seconds in length and not more than eight. Count seconds accurately; a good rule is to say as you shoot: ‘Thousand-and-one, thousand-and-two,’ etc., which gives an approximate timing of one-second to each count.”

Now, this is a good general rule and I can endorse it heartily as a guide for anyone who does not want to clutter up his mind with a miscellany of technical data which might only confuse him. Rules are the staff of life and they are nice to have handy for a beginner to latch on to as he puts his best foot forward. If his early efforts center around static shots, such as landscapes, flowers, shots of animals or pot shots of friends, he can do much filming without the need of further advice on scene length.

Later, he will forget his basic training as he comes to realize that the length of a scene depends upon the subject matter, the action, and the tempo. Each of these factors must be taken into consideration. After that there are three questions which need to be answered:

1. How long must the scene remain on the screen to permit the audience to grasp the significance of the subject matter?

2. How long will the subject sustain interest?

3. How does the length of the scene suit the tempo of the surrounding footage?

To answer the first question, the amateur must visualize the scene flashing on the screen and put himself in the place of someone in the audience who has never before seen the shot. With a stop watch, he can count off the seconds as he imagines the mental reaction to the scene in question. After that, it is a matter of multiplying the seconds by 16-frames-per-second, or 24 if film is shot at sound speed, then making the scene so many frames long.

How long will a subject sustain interest? Here again, the imagination is called into play, and the frames counted off.

The third question, which concerns tempo, is not easy to answer, because so much depends upon the effect that is to be created by means of the pacing of the film. A skilled cutter will know when the length of a scene is counter to the tempo, but the easiest way to detect errors will always be to run the film through the projector to see if any of the scenes disturb the even flow of continuity. As an example of wrong pacing, suppose one were to splice together a sequence depicting a quiet, pastoral mood, with shots of landscapes, animals grazing, etc., all scenes of generous length to carry out the unhurried effect—tempo, very slow. But, right in the middle a short scene is spliced, showing a number of trees whose branches are whipping about in a violent wind storm. It would not have taken an expert to know that this scene was completely off-tempo. Short or long, such a scene would be wrong, but I submit this as an example of how subject matter, length of scenes, and tempo, challenge the attention of aspiring directors and film editors.

How long should a scene be? You’ll find the answer quickly on your local radio: *“Keep Calm! We'll take the women and children AFTER we’ve saved the KINEVOX!”*. (**Leading portable synchronous magnetic recorder.**)
theatre screen. Make use of every opportunity to study professional cutting technique—it's the shortest cut to perfection in your own movie making. Invariably, the answer to the questions for average amateur films is: "It depends on how long the subject matter sustains interest on the screen."

A shot of a field of daisies will wane in three seconds, whereas a closeup of a beautiful rose is good for six. Babies doing cute things, a beautiful girl, interesting animals in action, grotesque insects, and a host of other subjects sustain interest on the screen, and all a filmer has to do to determine the length of scene for any of them is to decide in his mind how long he could look at it in someone else's movie. He must forgo forever the desire inherent in cinemateurs to use every inch of film he shoots, because it represents capital investment. It is much better to regard discarded footage as the only true measure of his stature as a moviemaker, on the assumption that, if he can cut out the chaff, chances are there will be plenty of grain in the remaining footage.

MAGNETIC SOUND
(Continued from Page 394)

to overcome to make possible magnetic sound on double-perforated film was that the Soundstripe had to be placed between the sprocket holes and the edge of the film closest to the projector, and on the side of the film facing the projector lamp, so that it could be recorded and played back with the same heads as for regular Soundstripe. It was found that the sprocket holes or perforations in the film caused it to bump unevenly over the magnetic heads. A way had to be found to keep the film firmly in contact with the heads, without increasing the pressure on the heads, so that head life would be maintained.

The problem was solved by adding a small resilient roller to the film movement; the roller supports the film at point of contact between head and Soundstripe and irons out the bumps. The new Soundstripe for double-perforated 16mm films, incidentally, is 30 mls (.030 inches) in width. The sound quality achieved with this narrower magnetic track is excellent for voice and music at 24 fps, and is relatively good for both voice and music at 16 fps. It is unnecessary to speed up films shot at 16 fps to 24 fps to record magnetic sound on Soundstripe tracks. The Bell & Howell recorder-projector records and plays back at both speeds.

This new development does not mean
that the Bell & Howell 202 recorder-projector, originally designed to record and playback the wider Soundstriped films, is already obsolete. Instead the usefulness of this machine has been extended to serve a greater number of 16mm cinefilers. Present owners of model 202 recorder-projectors may have them adapted to record and playback the narrower 30 mil tracks for a charge of about $35.00. The models coming off the assembly line today, of course, have this adaptation already built in.

Since the advent of magnetic sound for 16mm films, the 8mm movie maker has lamented, with good cause, the lack of development of sound for the narrower film width. The Movie-Mite Corporation, however, has quietly been working on the project for some months, and this month they have announced the first 8mm magnetic sound recorder-projector. The company, with factory headquarters in Kansas City, Mo., and which pioneered the first low-cost 16mm sound projectors, has a limited number of the machines in demonstration across the country. Their “Movie-Sound B” comes complete in a single case, has built-in speaker and a microphone, will take up to 1600 feet of 8mm film, and retails for $398.50.

Unlike with Bell & Howell Company, which offers its own magnetic sound tracking service, Movie-Mite Corporation does no sound stripping. Stripping service for 8mm films is offered by Reeves Soundcraft, one of the pioneers in this field. Reeves applies a narrow stripe of magnetic iron oxide 25 mils in width next to the sprocket holes on 8mm film. Like Bell & Howell, Movie-Mite has also developed a method for smoothing out the film at point of contact with the sound head, to avoid flutter that otherwise might be caused by the sprocket-hole "hump." The cost of stripping 8mm film for magnetic sound is the same as for 16mm—$1.50 per foot.

The third important development in this field of magnetic sound for home movie films is that of Victor Animatograph Corporation, long one of the nation’s outstanding producers of 16mm sound projectors. Last month Victor announced its Magnasonic unit—a magnetic sound attachment for 16mm Victor sound projectors old or new, enabling them to record and playback magnetic sound tracked films. With this unit attached to a Victor sound projector, it becomes a combination optical-magnetic sound track reproducer and magnetic recorder. The unit consists of an amplifier-mixer, microphone, and record-playback attachment for the projector which requires no factory-installation. It sells for only $175.00; so if you already own a Victor 16mm sound projector, you can go into magnetic sound film making at a cost considerably less than those who must buy one of the new magnetic projector-projectors.

All this development of magnetic sound for home movie films has naturally caused some thinking about recording lip-sync sound as 8mm and 16mm movies are filmed. It has remained for a French company, Tolana, a leading European manufacturer of electronic equipment, to come up with a practical, compact magnetic film recording unit that may be coupled with a number of popular 16mm cameras. There have been other companies in France that have developed similar equipment. Two of these units are illustrated on page 394. The photos show how the recorder, with camera attached, is mounted on the base of a carrying case, then mounted on a tripod.

The Tolana recorder, which carries the trade name of Mini-16, is driven by a small electric motor which turns both the camera and the recorder. Four small batteries supply enough power for recording 1/2 to 1 hour. Thus far the company has developed couplings enabling the recorder to be used with the Bolex H-16, the Model II Cine Kodak Special, and the Pathé 16.

It is not unlikely that similar equipment is currently being developed in the United States. When it is announced it will find a ready market. There are enough prospective customers among American cine amateurs to warrant several manufacturers to go into production on recording units for cine cameras. Rumors are rampant, of course, but manufacturers are naturally reticent to make any announcement until ready to go into production.

So... considering all these developments, there’s a bright, rosy future ahead for the amateur movie maker. Sound—the logical “next step”—has been floundering around just waiting for the right application to come along to make it both practical and inexpensive for the amateur. Magnetic sound has proved a natural for the cine amateur, and you may be sure it’s the big thing for the future. Indeed, already several readers—regular annual contestants in American Cinematographer’s yearly motion picture competitions—have announced that their 1953 entries will have magnetic sound on film.
studio were utilized at one time or another in the erection and the photography of the miniature scenes.

Of all these, the storm scenes proved the most challenging. Gillespie’s technicians were met by the problem of providing realistic stormy seas in a pool of water scarcely an acre in size and a yard in depth. It was the actual wave motion, the building-up of the surging water into mountainous waves that proved the real challenge; never before had such sea action been specified in an MGM miniature. Finally the problem was solved by building a huge water-plow, which was pulled through the water by a battery of 10 giant diesel trucks. To create the hurricane-like winds, the studio acquired 6 obsolete Navy bombers, sheared off the wings, and moved them to the miniature site. The giant propellers of the planes driven by powerful liberty motors whipped up a terrific gale. Augmenting these, were 3 conventional wind machines mounted on barges and floated on the lake. By changing positions of wind machines, various wind effects were made possible for scenes other than storm sequence. The ironical thing about this accomplishment, however, is that just about this time, the studio decided to do the whole picture in color, and all the miniature work photographed up to this point had to be done over again—some of it abandoned or substituted.

In the beginning of “Plymouth Adventure,” the production was scheduled to be done in black and white. As the studio then was experimenting with its Ansco Color process, a number of miniature shots for “Plymouth Adventure” were also shot in Ansco Color, as a test of this new film in miniature production. The tests looked so good, the studio decided the picture should be made in color. As a rule, all miniature work for a picture is planned and executed far in advance of the start of the live action phase of the picture. This is because so often much of the miniature work is to supply background plates against which live action is played later. Thus it was that the miniatures phase of “Plymouth Adventure” occupied a little over a year to plan, execute and photograph.

No less important are the factors relating to the photography of miniatures. At MGM, Max Fabian has been the leading cameraman for this type of work for over fifteen years. According to Fabian, the importance of proper painting of the backgrounds, props and the miniatures themselves cannot be over-emphasized. Scale and distance—the illusion of actuality, in fact—depend largely upon this operation. Contrast must be eliminated in the foreground and accentuated in the background to aid in conveying the impression of natural atmospheric distances. The cinematographer, too, by the
discerning use of such devices as gauges, glasses, and lighting effects plays a large part in creating this illusion. The use of natural backgrounds, when possible, and filtered skies add immeasurably to the scenic value of the shot, as well.

Like the planner and the builder of miniatures, the cameraman must be a specialist, because he, too, is dealing with a highly specialized phase of picture making, in which experience is his most valuable asset. Only experience can teach him the type of treatment, lighting, and equipment required; how many frames per second the camera must turn in order to effect the right degree of illusion for a given type of miniature movement. Thus, while there are many expert cinematographers capable of photographing full-scale action on normal studio sets, there are only a few really competent miniature cinematographers.

"Lighting a miniature set is entirely different from lighting a set on the sound stage," Fabian said. "The scale of the miniature and the speed of the camera must correspond exactly, while different types of action require different taking speeds. As a rule, the best results are obtained by the use of above-normal camera speeds. We shot the 'Plymouth Adventure' miniatures at speeds ranging all the way from 72 to 96 frames per second. The normal speed was 84 fps. For example, when shooting the storm scenes, we used the faster speed of 96 fps. Then when we photographed the ships in calmer seas, we reduced the camera speed to 72 fps."

Probably most important of all is the placement of the camera, for upon this depends much of the success of the shot. Here again the cinematographer draws upon his vast experience. Not only is the horizontal angle important, but the height of the camera, as well. This last factor is greatly influenced by the size and scale of the miniature, as well as by the nature of the action.

In most of the shots of the boats for "Plymouth Adventure," the camera was mounted on a parallel, the top of which was just barely above the level of the water. This enabled Fabian to photograph the ships at an angle corresponding to a normal eye view from shore.

A notable feature of miniature photography is that, despite the need for detail, the scene is nevertheless both lighted and photographed softly. The inexperienced cameraman, filming miniatures, invariably will photograph his scenes too crisply, which destroys the desired illusion of naturalness and reveals the scene for what it is—a miniature.

Fabian shot all miniatures for "Plymouth Adventure" in daylight—both the day and night shots. No artificial light was used at any time. Reflectors were used for booster light, and these same reflectors were put to unique use to supply the illusion of moonlight. For a moonlit scene of the ships at sea, Fabian had seven sunlight reflectors mounted atop the backing structure. These were tilted to reflect beams of light down on the water at a sharp angle. The illusion of nighttime was further heightened by painting the backing for a night sky—moonlit clouds, etc.—and underexposing one full stop. All of the miniatures, incidentally were shot in Ansco Color, mostly at 84 fps, at f/5.6, with balance of the production being filmed in MH (mazda) Technicolor. Lenses used ranged all the way from 25mm to 3 inches; but those most frequently used were 35mm and 40mm.

In shooting the storm scenes, the camera was mounted in a "bungalow" which was suspended over the set from a camera crane. In any miniatures where there is movement, the illusion of reality is enhanced by keeping the camera moving, also, according to Fabian. In this instance, the camera was moved about the set by the boom operator, giving the illusion it was mounted on board another ship—with the horizon line moving up and down, etc., as in most normal scenes of this kind.

Sometimes, in shooting the storm scenes the camera had to be used without the "bungalow" and in such instances, a water-proof housing of transparent plastic—actually a war-salvaged "blister" from a warplane—was placed over the camera.

To supply background plates for process photography of closeup scenes showing actors on deck of the ships during height of the storm, one camera, properly protected against the elements, was mounted securely on the Mayflower to photograph the deck with the sea as background. The storm effects were started and the camera remote-controlled from shore. Later, on the sound stage, the background footage thus secured served as a backdrop for some highly dramatic action that appears on the screen as though actually filmed aboard a full-scale vessel at the height of a storm.

According to Max Fabian, the cameraman shooting miniatures must be virtually an expert in super-speed cinematography, and have a great deal of experience in this type of work. Softness, which is all important, he pointed out, increases directly as the speed of the camera is increased; the cameraman, therefore, must know how to use this phenomenon to advantage.

Fabian's work in miniature cinematography over the years has been a serious career. No phase of the work has escaped his study and experience. During all the years he has done this work at MGM, he has built up a valuable reference library of film clips from the various productions on which he has worked. This shows the photographic effects achieved at various camera speeds and f/ stops. Thus, whenever he is confronted with a problem, the answer to which does not come immediately to mind, Fabian needs only refer to his records to find the answer. He admits that even with this resource, there are still occasions when it is necessary to experiment in order to determine the right factors that will give a certain result. Today, a scene often will be shot two or three times, each time at a different camera speed, f/ stop, or with different lighting, or with the miniatures operating at different speeds. The right take, of course, is selected the next day when the dailies are screened; the answer to a new and hitherto unencountered problem may thus have been found, and the data set down in Fabian's record book for possible use in the future.

The use of miniatures in motion pictures today is not a means of fooling the public, but one of giving them a better show for the money by taking advantage of new and modern techniques which make the hitherto impossible, possible. Miniature work is no longer confined to feature film production, but is widely used in making industrial and educational films, and films for television. In the major studios, the miniature department is considered the most interesting of all the studios' far-flung operations. Each assignment is a new and interesting challenge. Little wonder then that the men who comprise the personnel of these departments each have a record of many years of continuous work in their specialized field.

WARNERCOLOR
(Continued from Page 385)
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and Jay Novello in the wine shop responded particularly well to this lighting treatment, being sharp throughout and with genuine natural color. Because of WarnerColor's great depth of focus, most of our exteriors have a strong three-dimensional aspect.

The numerous scenes on the hilltop in which the image of the Virgin appears to the three children were done on the original negative in the camera; however, the Warner Brothers' laboratory is now using the three separation negative process in printing these scenes.

In "Fatima" the emphasis was on characterizations rather than on action, which implemented the previous WarnerColor productions. Director Brahm, therefore, was painstaking in developing compelling camera studies — virtually portraits — of the principal players, which may very well become the envy of contemporary still life painters, so successfully did we achieve new pictorial results with this color film process.

I am naturally delighted with the reception that has been given the WarnerColor photography of "Fatima." Already I have received many letters and telephone calls about it — some from persons not connected in any way with photography. As it would be to any motion picture cameraman, it was a great satisfaction to me that so many people recognized the great difference and improvement in this new phase of screen photography.

Two days after finishing "Fatima," I went on to new and even more interesting experiences with WarnerColor when I started shooting Warner's "Springfield Rifle," starring Gary Cooper. We started the production by shooting exteriors at the famous Lone Pine location site, filming on Mt. Whitney, about 9,000 feet elevation. From the cameraman's point of view, this WarnerColor production was vastly different from any of the preceding three. We didn't have any booster lights along because the story lent itself to many different moods, and the studio had decided to shoot in any and all weather — which we did. As an example of the shooting weather often encountered, one day we were filming in the snow in bright sunlight when the sky suddenly became overcast and snow started to fall. For the next three hours we had a full-sized blizzard, with snow reaching a depth of four inches. Director Andre De Toth took advantage of the situation for its pictorial possibilities and had us shoot one full sequence during the blizzard. It was so dark, I could scarcely get a meter reading — the meter needle barely moved — but we took a chance, with the result that we filmed scenes that never could have been obtained if staged under artificial storm conditions, indoors or out. This further testifies to the unusual qualities of Warner's new color film process.

"Carson City," starring Randolph Scott, was the studio's initial production with the new WarnerColor process. Quite naturally, John Boyle, A.S.C., who directed the photography, ran into many problems impossible to anticipate, even though extensive laboratory experiments had preceded the initial test-in-production of the film. Those of us who had worked on the experiments were a little nervous at the start, for no matter what our confidence was in the new film, we also knew that the studio had a good many dollars invested in pioneering it. During the tests and experiments, there were times when we were straining to get an exposure, and still other times when we were not at all certain that our focal depth was correct. However, none of us at Warner Brothers was prepared for the surprise in finding every exposure perfect. We now realized that we
had not even begun to tap the vast potential of the new film’s possibilities. As the dailies rolled in, we knew we had a winner.

WarnerColor has been in steady use now for little more than a year. The strides that have been made are tremendous; the improvement in color quality, contrast, etc., from film to film has been a revelation; but all this is all the more intriguing when you consider we still have a lot to learn about WarnerColor’s limitless possibilities. This film process, I am sure, will open up a whole new era to the motion picture industry—an era sure to see most all productions made in color at a cost scarcely more than that for black-and-white.

The WarnerColor production on which I am now working—“Back To Broadway,” starring Virginia Mayo and Steve Cochran—is entirely different from all the others, with most of the scenes interiors. The film is set up for a 450 foot candle key at f/2.8, but there is very great latitude either way.

I have been fortunate in having the same crew with me on each WarnerColor production including operator Lou Jennings and gaffer Vic Johnson. Their vast experience and splendid assistance have made it possible for me to devote more time to getting the most out of this new color film process.

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**LIGHTING FOR HIGH-SPEED MOTION PICTURES**

(Continued from Page 389)

is still far less effective on the overall photographic result than that which normally occurs in the day-to-day practice of either Kodachrome or Ansco Color. The ideal situation, of course, is to get maximum illumination on the subject at all times.

In the early days of high-speed camera development and usage at Bell Telephone Laboratories in New York, a series of lamps was designed, which employed parabolic and spherical mirrors. For lighting very small subjects, a 6-volt 50 candle-power lamp was used having a spherical mirror in back of it. This lamp was burned at 8 to 9 volts—just this side of burn-out. Clustered around a small subject, these lamps are ideally suited for use in filming microscopic studies; the image of the lamp filament, being small, can be “laid down” on the subject at approximately one-to-one.

Incidentally, it is necessary to have a small hole on the down side of the mirror reflector, so that when the lamp is mounted vertically the effect of the mirror becomes immediately apparent. Mirrors of short focal length are used for this purpose. Still larger units have been employed which used 250-watt, 24-volt lamps, but these have since been superseded by the Fastlite.

The Fastlites have a parabolic mirror back of the lamp, and the base of the lamp is mounted on a rack and pinion movement. Thus the lamp may be focused—moved toward or away from the mirror—so that image of the filament is projected directly on the subject. In order that heat from this concentrated light beam may not burn the subject, water cells have been added to the system to reduce the heat temperature. It is interesting to note that when the lamps, thus protected by the water cells, are used as close to subject as 18 inches, light intensities up to 150,000 foot candles can be obtained without inducing bubbles in the water cells, which, incidentally, do not require that the water be circulated during use.

The lamps used in the Fastlite units are 1000-watt, 100-volt. These are used in pairs and are burned at 120-volts. A series-parallel switch is recommended for use with these lights so that illumination may be reduced one-half during focusing and line-up, and the lamps burned at full voltage only when filming actually takes place.

In a recent study, using four of these lights at a distance of 8 feet from subject, it was possible to get satisfactory full-color exposures at 500 pictures per second, using a stop of f/4.5. When the brightest used closer than 8 feet, four will permit photography of subjects in color at rates up to 7,000 pps.

We have found that on occasion it is possible to introduce in the Fastlites mirrors of other focal lengths which make it possible to project on the subject still smaller images of the lamp filament. It is to be noted that when one projects the image of the filament, the brightest point of the projection will be where one is able to project that image at a magnification factor of one to one. Where the projection becomes twice the size of the original filament, the full benefit of the projection is not obtained, for it becomes much brighter than spilled light. Contrary to this is the fact that where a filament image only one-half the size of the original is produced, it still has the same brightness as the one-to-one image. It is not possible to intensify the image by reduction.

There are several several commer-
cially available lighting units for high-

speed motion picture photography, which

are suitable for portable use. The most

common is the 750R lamp (see illustrate-

ation) which is normally used at a dis-

tance of from 14 to 18 inches from sub-

ject and which is brighter in terms of

intensity than any of the other so-called

reflector spot lamps. It should be used

in conjunction with the series-parallel

switch, described above.

This lamp will produce illumination

about one-third as bright as the Fast-
lites. Consequently their use requires

that exposure be increased accordingly,

keeping in mind, of course, that one

should work with the lens stopped down

as far as possible in order to get the

greatest depth of field.

The 750R lamp is not a water-cooled

lamp and consequently is quite hot for

many subjects. This may be remedied

by placing a 5-inch Kolle culture flask

filled with water in front of the lamp,
to act as a heat-absorbing medium.

The RSP2 photolamp, developed ear-

erlier than the 750R, has from one-third
to one-half the intensity of the latter.
The 150-watt reflector-type show win-
dow spotlight, when burned at 220
volts, is another very good light source
for high-speed photography. However,
when using these lamps, one should
exercise caution and not put the full
220 volts on this 110-volt lamp at once,
but bring the voltage up gradually.
Otherwise, the lamp is liable to explode.

The 12-14-volt and 24-28-volt air-

plane landing lamp is still another
light source for high-speed photography,
when burned at over the rated voltage.
These have a tendency to project two
small spots of light, which may or may
not be a disadvantage. When using the
12-14-volt lamps, it is suggested that
the line voltage be increased to between
17 and 18 volts, which will give suffi-
cient brightness. For the 24-28-volt
lamps, voltages of 32 to 34 will give
satisfactory results.

Ordinary storage batteries can be
used to furnish power for the airplane
lights. As with the other lamps used
with increased voltage, a resistor should
also be used to bring the lamps gradu-
ally up to full brightness. Another ad-
vantenge in using these lamps is that
they may be used in high-speed cine-
matography aboard aircraft in flight,
using the plane's power generators for
current supply.

The measurement of light has always
been a problem in high-speed motion
picture photography. Many cameramen
have adapted their own exposure meters
for use with the special lamps em-
ployed. However, the most consistent re-
sults are obtained when readings are

(Continued on Page 408)
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ALLIED ARTISTS
- Charles Lang, "Salome—The Dance of the Seven Veils," (Beckworth Prod. in Technicolor) with Rita Hayworth, Stewart Granger, Chas. Laughton, William Dieterle, director.
- Paul Ivanov, "Story Of A Bad Girl," with Cleo Moore, Hugo Haas, Glenn Langan, Hugo Haas, director.

METRO-GOLDWYN-MAYER
- Ray June, "Sombre," (Technicolor) with Pier Angeli, Ricardo Montalban, Vittorio Gassman, Cyd Charisse, Norman Foster, director.
- Robert Plank, "My Mother and Mr. McChesney," (Technicolor) with Greer Garson, Walter Pidgeon, Jean Negulesco, director.
- Alfred Gilks, "See How They Run," with Dorothy Dandridge, Robert Horton, Harry Belfonte, Philip Hepburn, Gerald Oliver, director.
- Harold Rosson, "Dangerous When Wet," (Technicolor) with Esther Williams, Fernando Lamas, Jack Carson, Charles Walters, director.

MONOGRAM

AMERICAN SOCIETY OF CINEMATOGRAPHERS
FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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PARAMOUNT
- Frank Planer, "Romani Holiday," (Shoot- ing in Rome, Italy), with Gregory Peck, Audrey Hepburn, and Eddie Albert. William Wyler, producer-director.

REPUBLIC

R.K.O.

PREMIUMS

FRANK ANTHONY (Technicolor) with Harry C. Hovan, Eugenia Sheppard, John Farrow, director.

ROBERT DE GRASSE (Technicolor) with Jocelyn Brando, Delores Morris, John Ford, director.
20th Century-Fox

Universal-International
- Maury Gertsman, "Lone Hand," (Technicolor) with Joel McCrea, Barbara Hale, Alex Nicol, Charles Drake, George Sherman, director.
- Charles Boyle, "Column South," (Technicolor) with Audie Murphy, Joan Evans, Robert Sterling, Frederick De Cordova, director.
- Russell Metty, "Man From Alamo," (Technicolor) with Glenn Ford, Julia Adams, Chill Wills, Victor Jory, Budd Boetticher, director.

Warner Brothers
- Carl Guthrie, "The Jazz Singer," (Technicolor) with Danny Thomas, Peggy Lee, Michael Curtiz, director.
- Wilered Cline, "By The Light Of The Silvery Moon," (Technicolor) with Doris Day, Gordon MacRae, Rosemary DeCamp, David Butler, director.

Independent
- Winton Hoch, "Return To Paradise," (Aspen Pictures) (Technicolor) with Gary Cooper, Roberta Haynes, Mark Robson, director.

NOTE: Names of A.S.C. Directors of Photography who were engaged in the photography of films for television last month will be found in the "Television Production column" on page 393.
LIGHTING FOR HIGH-SPEED MOVIES

(Continued from Page 405)

made of and exposures based on the incident light falling on the subject, rather than the reflected light.

A number of factors affect the final density obtained in the film, viz: the temperature of the illumination used, type of film emulsion, kind of film developer, and the method of development. Thus, preliminary tests should be run on each roll or batch of film to be used. Using the Fastax exposure meter (or the Weston Model 757), the meter paddle should be placed under the light, facing the source, with the lamps burning at peak brilliance. The paddle should first be set for 300,000 foot candles, then, if this is too high, the scale may be dropped to 30,000, dropping to that particular filter, or to no filter at 3,000. It is important to begin always at 300,000 foot candles, otherwise the meter may have a tendency to spin if it receives a jolt of 150,000 foot candles with the scale set at only 3,000 fs.

In choosing a light source for high-speed photography and in actually lighting the subject to be filmed, it is important to bear in mind that lightning for HS photography is very tricky, that the brightest light source obtainable should always be used, and that the lights should be shielded from the subject with water-cooled heat filters.

CAMERA FILL LIGHTS

(Continued from Page 388)

equipped with sockets to take three 110-volt mazda photo lamps burning base down. Each lamp is connected to a separate snap-switch so that one, two, or all three may be switched on or off as desired. At the front of the unit is a panel of frosted glass or filter silk to soften the light. When the camera is dolly- or crane-mounted, the filler usually is wired through the dimmer bank, so that its intensity may be regulated during progress of the dolly shot.

So far we have been discussing filler lights for black-and-white photography. For Technicolor a filler light of greater intensity is usually required because color photography in general requires not only greater light volume but illumination and to concentrate it more rather than the reflected light.

For Technicolor a filler light of greater color temperature. For this reason, a "coed" is required. In this respect, John Boyle, A.S.C., agrees. Boyle says the nominal function of the fill light on the camera is virtually the same as that of the flash bulb in still photography—to wash out the shadows. Currently photographing the "Big Town" TV film series, Boyle invariably uses a filler mounted on his camera just above the matt box, when making dolly shots or closeups.

"The lamp must be intelligently used," said Boyle, "otherwise it can be troublesome. Here, a good dimmer operator is an important factor. If you have a good dimmer operator, then the filler can be a definite lighting asset."

Harold Lipstein, A.S.C., who is photographing "A Steak For Connie" for Metro-Golden-Mayer, says "I always use a 'coed' on the camera when filming closeups—usually in conjunction with two Inkie Dinkie spots mounted on brackets at either side of the camera. These give me soft fill light plus eye lights. The fill light is always cabled..."
through the dimmer bank so that light intensity can be altered as we dolly in or out.

"Today, the cameraman is called upon to move his camera so much during a shot, that it is almost impossible to set up floor lamps that give satisfactory illumination on travel shots. With a fill light on the camera, the closeup light source travels right along with the camera; it is a great time-saver."

Phil Tamura, A.S.C., who has photographed many of Columbia Pictures' productions and who is currently shooting the "Burns and Allen" TV show, also uses the camera fill light as a regular procedure on closeups and tracking shots, "when it's impossible to get other lighting units properly placed for the shot," he said.

The late Gregg Toland was an avid user of camera fill lights and designed his own equipment. His lights were similar to "coeds," were made in two sizes, and were used both below and above the camera lens. It was not uncommon to see fillers in use on his camera at one time when making dolly shots. Toland's success with these lamps is said to have given impetus to their general use throughout the industry. Today, Toland-designed fillers are a popular item of studio lighting equipment.

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**WHEELS THAT STILL TURN BACKWARD**

(Continued from Page 390)

it turns at one rps, two sets of spokes will appear. At any lower speed the appearance will be correct.

Simpler than mathematics is the use of some device which will enable the cameraman to examine the vehicle in the same way as the film sees it—at the rate of 24 separate glimpses per second. The obvious answer to this demand is the reflex type of shutter such as is a feature of the Vinten Everest, the Debrir Super-Parvo, the Eclair Camerette and the Arriflex cameras. If a moving wheel is viewed through the viewfinder of such cameras, any stroboscopic faults will be immediately apparent.

To provide for other cameras, I have before made the suggestion that the viewfinder should be fitted with a small shutter, synchronized with the camera shutter. In the case of a camera driven by a Selsyn or interlock motor, this would necessitate little additional complication.

If the cameraman, either by mathematics, by a reflex shutter, or by an

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Filming the TV Dramatic Featurette

(Continued from Page 393)

A Real Lab Machine

The persistence of this elementary fault is due, perhaps, to the fact that we technicians have become so accustomed to it that we do not notice it, or perhaps in some cases think it is unpredictable. But the patron — especially the younger generation — notices the fault, and it is curious as to its cause, which I have more than once had to explain to a technically-minded boy. It is high time it was eliminated, along with other faults of the early cinema.

There is a growing preference for stylized or impressionistic sets which do not pretend to be realistic but which contain just enough line and form to convey the feeling of the desired setting. Such sets can be constructed very cheaply and easily — but they should be designed by someone who knows his business or they will look amateurish.

Sets for TV dramatic films should be constructed in such a way as to permit reverse camera angles, thus giving a three-dimensional feeling to the production. Very often this result can be achieved through the use of a "wild wall," which is nothing more than a movable flat that can be placed as needed and dressed to form backings for various reverse angle scenes. Such "wild walls" should be of sufficient size to permit a fair depth of composition.

On the budget is unusually low, the director is entitled to demand that elementary technical matters such as this should be subordinate to his ideas of the action. Very often this result can be achieved through the use of a "wild wall," which is nothing more than a movable flat that can be placed as needed and dressed to form backings for various reverse angle scenes. Such "wild walls" should be of sufficient size to permit a fair depth of composition.

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story can easily be recaptured for the continuation of the film. The principal physical problem of producing short dramatic films has to do with settings. Here again the problem is a two-fold one: that of budget and of suitability to the television medium. Generally speaking, the budget will allow one fairly ambitious set, or three to give rather sketchy sets. A setting which is conceived realistically must be fairly ambitious and the detail must be authentic enough to simulate the desired background. Therefore the realistic setting is the most expensive and time-consuming type of arrangement.

There is a growing preference for stylized or impressionistic sets which do not pretend to be realistic but which contain just enough line and form to convey the feeling of the desired setting. Such sets can be constructed very cheaply and easily — but they should be designed by someone who knows his business or they will look amateurish.

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For economy of time and budget, the script should provide for fairly long shots, with variety being achieved through careful dollying in and out as well as panning with the action. This implies that your actors will have to be good studies — that is to say, capable of memorizing lines rapidly and retaining them. The horizontal pan shot should be used only when needed to follow action, since it creates an annoying distortion at the edges of most television against a neutral-colored flat. A prison is suggested by projecting bars on the wall, etc. In order to achieve this effect, it is necessary to use a focus-spot lamp by means of which small cardboard cut-outs can be sharply projected against the background.

In designing sets for films to be shown on television, large areas of black and white must be avoided, since they tend to produce an unpleasant "bleeding" effect on the TV receiver tube. It is better to use tones of grey ranging from very light to quite dark. In place of black a very deep blue will give better picture results. Similarly, costumes should be designed to contrast properly with the background, as well as to help create authentic characterizations.

Camera technique as developed for the theatre photoplay must undergo certain adaptations in order to give the best results in television filming. Extreme long shots should be used very sparingly, since detail in this type of shot tends to blur out on the television tube. Television is a close-up medium, and that applies to films which are created for the medium as well as to live shows. Compositions should be tight, but centered in such a way as to allow for the cut-off of tube aperture which is characteristic of certain receivers.

For economy of time and budget, the script should provide for fairly long shots, with variety being achieved through careful dollying in and out as well as panning with the action. This implies that your actors will have to be good studies — that is to say, capable of memorizing lines rapidly and retaining them. The horizontal pan shot should be used only when needed to follow action, since it creates an annoying distortion at the edges of most television
From the dramatic standpoint, a variety of camera angles is very desirable, but each new camera setup means more time and consequently more expense — so it is wise to gauge your camera treatment to the budget and shooting schedule. Similarly, intricate special effects should be avoided, due to the time involved in achieving them and also to the fact that many subtleties apparent on the theatre screen become lost on the television tube.

When undertaking the photography of a series of TV films, in which certain basic situations will be repeated in each film, careful pre-planning with an eye to shooting all takes in one locale at one time will result in considerable economy of production. This is especially true when panoramic establishing-shots involving many players are required. Then it is wise to film all such shots at one time for use in the entire series, filing the extra footage for future use as needed. Further economy is possible through use of stock-shots which are available from the various commercial stock-shot libraries. These can be used to establish unusual locales, which otherwise might require long travel by a camera crew to film. Skillful editing or dissolves by the laboratory will give the illusion such scenes are a part of the original photography.

In the final analysis, the viewing public expects the same quality in television film productions it has come to expect in theatrical films. While certain limitations in present video systems preclude the possibility of rendering this quality in full measure at the present time, great progress is continually being made in this direction.

### TELEVISION

**FILM PRODUCTION**

(Continued from Page 393)

Goldwyn Studios; also, Screen Gems, Columbia Pictures Corp.

Leonard Clairmont, Paul F. Heard Co.


George Diskant, A.S.C., Tableau-China Smith Prods., MP Center Studio.

Curt Fetters, Ziv Productions, California Studios.

Henry Freulich, A.S.C., Edward Lewis Prods., Motion Picture Center.

Karl Freund, A.S.C., Desilu Productions, General Service Studios.

Frederick Gately, A.S.C., John Guedel Prods.; also for Volcano Prods., General Service Studios; also for Jan Prods., Inc., General Service Studios.

Fred Jackman, Jr., A.S.C., Key Productions, Eagle Lion Studios.

Benjamin Kline, A.S.C., Frank Wisbar Prods., Eagle Lion Studios.

John Martin, Wm. Broidy Prods., Sunset Studios.

Joe Novak, Roy Rogers Prods., Sam Goldwyn Studios.


Robert Pittack, A.S.C., Lindsley Parsons Prods., KTTV Studios.

Clark Ramsey, Revue Prods., Republic Studios.


Mack Stengler, A.S.C., Roland Reed Prods., Hal Roach Studios. Also William Boyd Prods., General Service Studios.

Phil Tannura, A.S.C., McCadden Corp., General Service Studios. Also, Joan Davis Prods., General Service Studios.


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Microphone Boom—Kadisch Camera & Sound Engineering Co., 128 West 48th St., New York, announces the Kadisch portable mike boom (illustrated above) for television and motion pictures. Rugged and expertly engineered, the boom may be readily telescoped into a compact 6½ feet for easy transport in car or trailer.

The 13-foot boom arm has a 5-foot telescoping extension and is strutted to support the heaviest microphones. External directional mike control is at the rear and affords a full 360° turn of the instrument. The sturdy 5-foot stand has three 4-inch rubber-tired wheels, and can be elevated to a height of 10 feet. Total weight of stand and mike boom is 43 pounds.

Hypan In Magazines—Anseo, Binghamton, N. Y., a division of General Aniline & Film Corporation, announces availability of Hypan black-and-white motion picture film in 8mm and 16mm magazines. New and improved Hypan was first announced two months ago in 25' rolls of twin 8mm, and 50' and 100' rolls, 16mm.

The improved Hypan has a daylight exposure index of 10, tungsten, 32. The image tone is blue-black, the whites are clear and crisp and the film has a moderately brilliant graduation.

Prices (including processing) for 8mm and 16mm Hypan Magazines are as follows: Twin 8 Hypan, 25' Magazines, $3.80, including tax; 16mm Hypan, 50' Magazines, $5.50, including tax.

TV Camera Pedestal — Houston-Fearless Corp., 11809 West Olympic Blvd., Los Angeles 64, Calif., announces an entirely new TV camera pedestal which makes possible running dolly shots, raising and lowering of camera while shooting, and smooth horizontal and vertical panning when used with the Houston-Fearless friction head.

Movement of pedestal may be done by the cameraman, without need of an assistant. A steering wheel directly be-

Continued on Page 414
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WHAT'S NEW

(Continued from Page 412)

Raising or lowering of camera is accomplished by simply lifting or pushing on the steering wheel or camera, made possible through a unique system of counterbalancing weights.

Set Lighting Aid—Schoen & Crowe, 403 West 47th St., New York 36, N. Y., offer the Alligator Clamp With Barn Door (pictured below) which may be used in conjunction with R2, R10 or Par 38 photolamps to achieve controlled illumination in motion pictures and television.

The alligator clamp permits hanging the unit from a nail on wall, clamping it to chair, door, rail or top of set; or it may be set on the floor.

Price of complete unit is $15.00.


Berg will soon unveil Eclair's new 35mm studio production camera, as well as a new sound blimp for the Camerette.

Berg also operates Television Recording Service, Inc., with headquarters at KTTV Studio, Hollywood, which specializes in off-the-tube film recording of TV programs.

Remote Control Tripod—Kinevox, Inc., 116 S. Hollywood Way, Burbank, announces a unique remote control tripod for TV cameras used in industrial video (closed circuit) photography. Tilt and panning action is motivated by servomotor mechanism having a remote control that may be operated from any distance.

Remote control box has a single "joy-stick" control by means of which tilting and panning of the camera can be accomplished. Range of tilt is 90°; panning action, 180°. The unit is operated by ordinary 110-volt current supply, which is reduced to 24 volts in the power circuit.

Tripod is first of several units which will make up the new Kinevox Industrial TV Chain soon to be announced in the industrial field. The tripod reportedly is also being tested for use with several new TV film recording systems.

Magnetic Sound Advice—"Tips On Making Your Own Magnetic Sound Movies" is title of latest "How To Do It" booklet offered by Bell & Howell Company.

REVIEW

(Continued from Page 380)

and settle down. He encounters Maureen O'Hara, decides to marry her, but without reconciling with her big burly brother, Victor McLaglen. The brawl between the two that climaxes the picture is one of the best ever staged and photographed.

Photographically, the whole production shows the same fine cinematic skill that marked "She Wore A Yellow Ribbon," which won an "Oscar" for Hoch two years ago. He could easily repeat, come Academy Awards time, with this fine job of cinematography.

John Ford, who co-produced the picture with Merriam C. Cooper, directed.

BULLETIN BOARD

(Continued from Page 374)

acquiring additional Kinevox magnetic film recording equipment, a color film processing machine, and other laboratory apparatus.

GLEN KERSHNER, A.S.C., returned from Honolulu early last month where he gathered data for an additional chapter for his forthcoming book on the South Sea Islands.

WINTON HOCH, A.S.C., fresh from his triumphant assignment shooting "The Quiet Man" in Ireland, was given an other foreign assignment—this time in Samoa. There he is currently shooting "Return To Paradise" in Technicolor for Aspen Pictures. Featured are Gary Cooper, Robert Haynes, and Barry Jones. Mark Robson is directing.
The best moonlight is the light of the noonday sun...

Obvious, of course, to an industry trained in modern cinematographic technics. Equally obvious is the need for infinite care in the choice of film and filters—in keying film and situation... in co-ordinating method and result desired in processing.

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Fred Jackman, Jr., A.S.C., uses three cameras to shoot the new Red Skelton TV series

THIS MONTH

• Magnetic Sound For 8mm Movies
• Putting The Red Skelton Show On Film

. . . plus six additional articles of interest to makers of movies

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ON THE COVER
Red Skelton, who now is putting his TV shows on film, tries one of his gags on director of photography Fred Jackman, Jr., A.S.C., while director Martin Rackin watches for reaction to gag from the camera crew. Jackman uses three Mitchell 35mm cameras to film the show, stops and starts cameras by remote control.
—Photo by Bud Graybill

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ENJOYING gags of Edgar Bergen and Charlie McCarthy at the ASC's annual Ladies Night party last month are (I to r) Hans Koemekamp, ASC, Mrs. Koemekamp, Marie Williams, Fred Jackman, ASC, Charles Clarke, ASC prexy, Mrs. Clarke, Pev Marley, ASC, and Betty Marsh.

AMONG HONORED guests at the ASC party were (I to r) film and radio actor Dick Powell, Mrs. Edgar Bergen, Edgar Bergen and MGM starlet June Allyson who in private life is Mrs. Dick Powell. Bergen teed off evening's entertainment with his cohorts, Charlie and Mortimer.

CHARLIE McCARTHY, ribbed the cameramen, said setting for the lawn party was "the worst lit movie set he'd ever seen in Hollywood!"

MORE THAN 200 American Society of Cinematographers members and their wives attended the Society's annual Ladies Night Dinner and Dance the evening of September 13 on the lawn of the ASC clubhouse in Hollywood.

Traditional event is held each year to honor members' wives who otherwise do not attend regular ASC meetings.

Among guests of honor were radio and film star Edgar Bergen, who introduced his erstwhile companions, Charlie McCarthy and Mortimer Snerd to an appreciative gathering; also Mrs. Bergen, actor Dick Powell and MGM starlet June Allyson.

SOL POLITO, ASC, heads a committee representing the American Society of Cinematographers seeking a permit from the city of Los Angeles to erect a memorial to the industry's cameramen on the triangular parkway at the corner of Hollywood Boulevard and La Brea Avenue in Hollywood. Once the permit is obtained, the Society plans to erect bronze statue of a typical cinematographer and his motion picture camera on the site. Delay in obtaining the desired permit reportedly is due to fact another Hollywood group previously had filed application for same site for purpose of erecting memorial to the late Will Rogers. As yet, the city has failed to act on the latter application.

JOHN ARNOLD, ASC, is among notables in the motion picture industry slated to be honored by the Society of Motion Picture and Television Engineers when the Society convenes October 6th in Washington, D. C., for its 72nd semiannual convention.

According to Pete Mole, ASC, who will accept the "Award of Fellow" in the SMPTE for Arnold, the latter has been cited for "special commendation for contributions to the fields that comprise the broad technical interests of SMPTE members."

SID SOLOW, ASC, who recently returned from an extended trip through Europe, during which time he inspected the major motion picture film laboratories there, announces that Consolidated Film Laboratories in Hollywood, of which he is general manager, will open its new 16mm film lab laboratory sometime in November. New addition will be largest 16mm lab in the world, and will take care of the expanding growth in use of 16mm films on west coast.

PETE SHAMRAY, ASC, west coast technical representative for DuPont, celebrated his 25th anniversary with the company an August 19th, while hospitalized for a brief illness. Day was marked by presentation to Shamray by DuPont officials of the company's 25-year Gold Pin set with diamonds in recognition of his many years' service.

FREDDIE A. YOUNG, ASC, British director of photography, is currently shooting "An Invitation To The Dance" in

(Continued on Page 458)
THE MAURER 16mm TAKES
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A reader in England, Cyril Moorhead of Surrey, has written to call our attention to the statement made in Joseph Biroc's article “Hollywood Launches 3-D Film Production” (August issue) in which the claim was made that Natural Vision Corporation has developed the first system of 3-dimension motion pictures, using two cameras recording images as seen by the human eye. According to Moorhead, "... this identical idea was used here in England to make the stereoscopic films exhibited at the Festival of Britain in 1950 and early 1951. The only difference in the unit described in your article and that used by the British film producers is that the latter used two Neuman-Sinclair 35mm cameras instead of Mitchells. May I also point out that, although designed here by Raymond Spottiswood, he modestly claims that the whole idea is quite old."

To verify his statements, reader Moorhead sent along an article published in the “British Journal of Photography” in 1951, illustrating and describing the equipment used in making the stereo movies exhibited at the Festival.

One thing that often obscures much of the new developments in things cinematic going on in Hollywood studios today, is the growing trend toward secrecy. Last month we were stopped cold on three different occasions in our attempts to secure data or photos for technical articles from as many studios. The aim, of course, is to retain the benefits of such developments for the respective studio. Invariably, however, another studio already has developed a similar process, article of new equipment or gadget, and news of the “secret” development eventually becomes general information. It's only natural, of course, that we should want to be the first to print the stories.

A practical system for dimming fluorescent lamps smoothly and efficiently may result in application of the lamps to motion picture photography for effect lighting.

By means of the new light control system, developed by General Electric lighting engineers at Nela Park, in Cleveland, the brightness of fluorescent lamps now can be controlled merely with the turn of a knob, just as smoothly and easily as incandescent lamps are dimmed.

Two sizes of controls will be made by G-E—one operating up to eight lamps, and the other up to 35 lamps.

G-E engineers explain that although colored fluorescents are much more efficient than filament lamps, their use in the past has been limited, because their brightness could not be regulated effectively. Fluorescent lamps produce more than three times the white light, and up to 25 times the amount of colored light, provided by incandescent lamps of the same wattage.

The engineers point out that fluorescent lamps maintain their original color during the dimming process, while the light of filament lamps turns increasingly red as it is dimmed.

The “Editor’s Note” which preceded Ed DuPar's article on Warner-Color in our September issue closed with the statement that “... the process is exclusively Warner Brothers’ No plans for making it available to other studios have been announced.”

It has been called to our attention that this statement is in error; that while Warner Brothers' personnel did work out their own procedure, which they call the Warner-Color process, this process employs Eastman color negative and positive film which, of course, is available to anyone in the industry.

Charles Rosher, ASC, who attended the annual convention of the Photographic Society of America in New York last month, at which time he was cited for Fellowship in the Society, tells us that the PSA has chosen Los Angeles as the locale for its convention in 1953, beginning next August 3rd. Convention headquarters will be the Biltmore Hotel.

Rosher, who will entertain PSA dignitaries during their convention visit, points out that the Society is building a strong membership among motion picture makers, both professional and amateur. "Herbert McDonough, editor of the PSA Journal," said Rosher, “asks that all photographers interested in 8mm and 16mm amateur movies communicate with Dr. Harold L. Thompson, chairman of the PSA's far-western states division, regarding the Society's forthcoming program in the motion picture division. Thompson’s address is 3767 Amesbury Rd., Los Angeles 27, California.
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MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931
THE STEEL TRAP — Photographed in black-and-white by Ernest Laszlo, ASC, for Thor Productions. Produced by Bert Friedlob and directed by Andrew Stone.

This suspense thriller starring Joseph Cotton and Teresa Wright, is notable for the fact that almost 99% of the picture was shot in actual locales. Only one studio set was used. The rest of the picture was shot off the lot—both interiors and exteriors.

Obviously, this was a considerable challenge for director of photography Ernest Laszlo, but he has come up with a slick semi-documentary treatment that enhances tremendously the excitement and the mood of the story from start to finish.

Story concerns a respectable bank executive who suddenly gets idea of absconding with a million dollars of the bank’s funds and fleeing with his wife and child to Brazil. Encountering every thing short of actual apprehension in his two-day flight attempt, he finally has change of heart and returns money to the bank, just moments before opening time.

Actual locales include a large bank interior in Los Angeles, restaurants and cafes in both Los Angeles and New Orleans, office building interiors, and interiors at various airports.

Laszlo has skillfully handled his lighting in all these to bring about effective photography, at the same time instilling the taught mood so necessary to the story.

It’s an excellent study of a fine photographic job accomplished under the most adverse circumstances.


Here is a picture that displays skillful use of light in every conceivable photographic situation. Throughout the production, lighting is most subtle in its variations and in delicate graduations, yet befitting every mood if not actually setting it on the screen, and greatly complementing the work of the players.

The story concerns Loretta Young who’s tangled up with a smuggler, Alex Nicol. They’re both arrested and jailed—she goes to Tehachapi. She’s paroled later, meets and falls in love with Jeff Chandler, a recuperating war vet. They marry; later Nicol enters their life after his parole, and causes separation of Loretta and Jeff Chandler. The couple’s child ultimately brings them together.

Perhaps the outstanding thing about the photography is the way the lighting points up the various scenes, the cameraman working smoothly with the art director to bring out the setting and the mood intended.

One example is the artful photography of the bedroom set where the newlyweds spend their first night, and again in the lovely home of the couple, most artistically lighted both for daytime and night interiors. The lighting enhances with notable effect the aura of elegance surrounding the dwelling.

One of the most outstanding sequences, photographically, is the series of night shots in which Miss Young, her child and Nicol in their car are fleeing police in a blinding rainstorm.

ASSIGNMENT—PARIS — Photographed in black-and-white by Burnett Guffey, ASC, and Ray Cory, ASC, for Columbia Pictures Corp. Produced by Sam Marx and Jerry Bresler; directed by Robert Parrish.

This dual-photographed production is notable for the smooth use of low key lighting that keeps the mood of the picture properly sinister throughout the 1 hour and 20 minutes it is on the screen.

This suspense-thriller has to do with an American newspaper man, Dana Andrews, who is trapped behind the iron curtain by the Reds in the manner of the well-known Otis incident, and later is rescued thanks to the aid rendered by a fellow news reporter, Marta Toren.

With most of the action staged indoors at night, the lighting scheme called for low key illumination, and this has been skillfully applied by cinematographers Guffey and Cory.

Standout sequence, photographically, is the exterior night scenes depicting rescue of Andrews and reunion with Miss Toren. These were actually filmed at night and demonstrate fine balance between the photographic illumination and the effect lighting, leading utmost realism to the scenes.
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Putting The Red Skelton Show On Film...

TV's No. 1 comedian switches to film for his 1952-53 video shows, which are produced in Hollywood, using an improved photographic system.

By LEIGH ALLEN
FRED JACKMAN, JR., A.S.C., at console of remote control by which he operates the three cameras as means of pre-cutting the show, also to effect economies in film consumption and laboratory costs.

LIGHTING CHART provides quick reference to power leads and dimmer switches for various lamps on set. Checking chart's details are gaffer Homer Flannette (left), Gene Tesfera, and Fred Jackman.

JUST BEFORE start of dry run of cameras for a rehearsal. Red Skelton demonstrates a gag apple with pop-out worm to director Martin Rackin (center) and director of photography Fred Jackman, Jr.

—Photos by Bud Graybill

BY THE TIME Red Skelton had produced his third live TV show last year, he knew that film was the only answer to the problem of how to put a half-hour television show on the air weekly for 26 weeks and still retain his sanity.

Already, others in television had discovered the answer and were rapidly joining the growing parade of filmed TV shows. Skelton, however, was in no position to make a quick switch to film in the middle of the season. Changing to film takes time—time to organize for it, to assemble capable personnel, and above all to find suitable studio space to house the vast operation. Skelton works best with an audience, so this meant the show on film would have to follow much the same format as when done "live"—with a responsive audience out front reacting to Skelton's humor.

Devoting considerable study to the problem during the summer layoff, Skelton had the answer by the time planning his 1952-53 shows was to begin. With the matter of sponsorship settled—Proctor & Gamble signed the show for the next seven years—Skelton and his associates leased the largest sound stage at Eagle-Lion Motion Picture Studio on Santa Monica Blvd. First step was to provide seating for audiences. An entrance was cut through from the stage to a side street to admit ticketholders and guests. A tiered balcony was erected at one end of the sound stage and 250 theatre seats installed. Space immediately under the balcony became the scene of camera and sound recording operations.

To provide a theatre-like presentation for the shows, each "act" is introduced by opening a huge velvet curtain which hangs from the ceiling and extends clear across the stage. The sets are erected on movable platforms about 15 feet square, instead of on the stage floor. This speeds up the changing of sets, makes the task as simple as shifting scenery. The old set is quickly rolled to rear of the sound stage, after the curtain is drawn, and the next one moved into place by stagehands.

Directing the photography of the show is Fred Jackman, Jr., A.S.C. It was Jackman's slick filming of the Skelton "Tide" commercials last year that made him the logical choice for this important assignment. Besides bringing to the Red Skelton show the best in lighting and photographic techniques already tested in TV film production, Jackman has added a unique remote switching system which enables him to control operation of each camera from a booth under the balcony.

(Continued on Page 446)
“The Thief”—A New Trend In Films?

A new and refreshing technique is revealed in this dialogue-less production that relies on skillful photography to project the story, unaided by sound or speech.

By HERB A. LIGHTMAN

“The Thief” is 87 minutes of spy drama on film told completely without the aid of dialogue. Produced by Clarence Greene and Russell Rouse (the team responsible for last year’s shock drama, “The Well”), “The Thief” packs a dramatic wallop which is only slightly deadened now and then as the dialogueless gimmick wears a bit thin.

The film’s outstanding technical credit is the boldly imaginative photography of Sam Leavitt—a job of forceful lensing that may well earn its creator a dark-horse nomination for an Academy Award for black and white cinematography.

In this film, the camera is just as much a star as protagonist Ray Milland or sultry charmer Rita Gam, for upon photography falls a great deal of the responsibility of conveying subtleties of mood and thought—elements usually brought out through the use of skillfully contrived dialogue.

“In this particular story the camera functions as an eyewitness to the proceedings,” explains director Rouse. “But more than that, the camera serves to relate the story in terms of character reactions. Since there is no dialogue—
and, therefore, no verbal exposition—the camera must catch the performers off-guard, at fleeting revealing moments when their souls are bared and their innermost thoughts revealed. In other words, the camera is a sort of scalpel, turning the characters of the story—with particular emphasis on Ray Milland—inside out."

"The Thief" is the story of a government-employed nuclear physicist who spies for an unfriendly foreign power—microfilming top secret manuscripts and passing the film on to a complicated network of confederates who smuggle it out of the country. When one of the couriers is killed in an automobile accident, and the police find the small cartridge of film clutched in his hand, the physicist is ordered by his superiors to flee to New York and await arrangements to leave the country. Directed to go to the observation roof of the Empire State Building to receive further instructions, he is pursued in a dizzy flight up the mooring mast by an F.B.I. agent whom he kills as they reach the very top of the soaring television antenna tower.

He makes his way down from this typically Hitchcock locale, receives his instructions, and is about to sail for freedom aboard a foreign freighter when his finer instincts coupled with a basic though bedraggled loyalty to his native land force him to turn back and presumably surrender to the F.B.I.

This slender story thread is made significant through taut direction, capable acting, and—as we have already pointed out—enormously effective photography. The semi-documentary character of the film, plus an unusually short shooting schedule placed a tremendous burden upon the cameraman, but director of photography Leavitt not only accepted the challenge, but actually turned his handicaps into assets.

The film was shot in a total of 18 days—eight in the studio, five on location in Washington, D.C., and five in New York City. The rigid shooting schedule allowed no margin for delays caused by weather or other acts of God.

Cameraman Leavitt was forced to shoot under whatever conditions prevailed. Thus it was that the very first location set-up (to shoot the departure of an airliner on an actual pin-point schedule) was made in early morning sunlight. Just as the crew was ready to shoot, however, a flash rainstorm cut loose. The shot was made in the ensuing drizzle exactly according to the timetable. The result on the screen shows the plane silhouetted against a sky piled high with glowering clouds—and the mood is exactly right for the somber tone of the action.

Scenes filmed on the crowded streets of New York and Washington had to be shot with a concealed camera, so that the curious crowds would not be aware that a motion picture was being made. Part of the time the camera and operator were hidden in a large packing crate with the lens poked through a small hole. At other times a small truck was used to camouflage the operation. This truck, for example, was utilized to film a spectacular night trucking shot in which the camera followed Ray Milland down Broadway from 47th St. to 42nd St.—a total of five blocks—for what is probably the longest dolly shot on record. In the final editing this scene formed the basis for a montage.

Because the fact that a film was being shot had to be concealed, it was not possible to use either booster lights or reflectors for the location exteriors. The average cameraman would have thrown up his hands and walked away if deprived of these standard necessities. Sam Leavitt, however, merely shrugged his shoulders—and by dint of extremely precise exposure control and a masterful use of filters, managed to achieve a style of realistic photography that perfectly complements the brooding atmosphere of the plot. Looking back at the location shooting, he recalls that he was not favored by a single day that could really have been called suitable for photography. Often the weather was so black...

(Continued on Page 448)
Deep focus lensing and lavish use of fluid camera enhance the film version of...

THE FOUR POSTER

By HOMER DAVIES

When Stanley Kramer handed Hal Mohr, A.S.C., the task of directing the photography of "The Four Poster" for Columbia Pictures, the capable two-time Academy Award-winning cinematographer received perhaps the most challenging photographic assignment of his colorful career. Here was a picture such as cameramen come upon once in a blue moon—a chance to get away from old formulas and cinematographic routines; opportunity to demonstrate one's artistry and imagination, and to prove that the director of photography can contribute substantially to the dramatic as well as the photographic presentation of a photoplay, given the opportunity. Mohr had this opportunity in "Four Poster" because of an unusual close association with director Irving Reis. Together Reis and Mohr planned every inch of action on the single set.

"The Four Poster" marks a wholly new concept in films, much of it unprecedented. Its cast comprises two people—Rex Harrison and Lilli Palmer. The story about a married couple takes place in a single bedroom over a period of 45 years. The screenplay by Allan Scott, adapted from a play by a Dutch dramatist, Jan de Hartog, spins its marriage theme across the decades from the wedding night in 1897 until old age in the forties. Because of its two characters in a single set, the film was shot entirely in sequence—a rare technique in feature films.

The marriage begins, of course, on the wedding night—its overtones of humor vying with undertones of terror for a young bride. The second crisis, a year later, foreshadows the birth of the first child. Later on, the wife discovers her husband's infidelity and successfully restores him to hearth and home. Two scenes involve the challenge to the couple as parents—first the coping with a teen-age son growing up, again in re-
YEARS LATER—The marital drama continues in the same bedroom in which the same four-poster looms as the main prop. It is the era of electricity now and Hal Mohr's lighting changes subtly from that used earlier in the scenes played by candlelight.

TWENTY YEARS LATER—The four-poster remains dominant in the bedroom which has undergone many changes in decor with the passage of time. Again skillful lighting plays an important part in setting the mood for the closing sequence of the picture.

adjuring the loss of this son in war. Still later, the wife herself, having married off a daughter, hankers for her freedom, instead embarks on a second honeymoon with the husband who has wooed her back. Finally the crisis of age; the couple surmounting poverty and illness, the survivor at last going it alone after a marital partner dies.

Production designer Rudolph Sternad and art director Carl Anderson sketched the changes of decades in broad sweeps providing atmosphere and backgrounds of 1897, 1909, the Twenties, and later the Forties. Following exhaustive research, the bedroom was designed. The four-poster bed, of course, dominates. In the cramped bridal chamber, high under the eaves, the bed overwhelms the late-Victorian decor. But in the bedroombesin the room—a revamp of the original set—the four-poster stands enthroned in an alcove—a high altar of marriage. The bed's furnishings reflect interior decoration during a half century. Its transformations range from the virginal white lace, frilly and luminous, of the wedding night, through heavy velour and velvet, the satin of lush years, a face-lifting with floral chintz, the sensible slip-covered austerity of age. Similarly, the furnishings change from the Nineties' awesome mahogany to a gayer traditional. Candlelight yields to gas, and gaslight to electricity. A phonograph appears, followed by a crystal set, and later a superheterodyne radio. Through it all, the bed stands firm.

Such is the physical environment cinematographer Mohr faced during the 24 days the picture was being shot. He worked almost entirely with a small camera crane, employing intricate boom positions. Each bedroom set had four complete walls, instantly demountable in sections; a ceiling was set in place for many shots. In the 1897 wedding night scene, Mohr's camera swept the bridal chamber in a 320-degree arc, pausing at 14 separate boom positions. Hours of preparation achieved a seemingly effortless shot, which appears on the screen as a comic struggle by candlelight. Harrison, as the bridegroom, tries to extinguish 15 candles, Miss Palmer as the nervous bride re-lighting them in turn.

The challenge which such a set and action presented to Hal Mohr's cinematic skill is at once apparent. Intricate light cues had to be worked out so that, as the candles were progressively extinguished and then re-lighted, the set illumination would change accordingly. "Some scenes," said Mohr, "involved as many as 25 or 30 separate light and dimmer cues."

The picture is marked by a wide range of lighting effects—candle light for the early scenes, firelight, gas light, then—as time passed—the electric light. "Our aim," said Mohr, "was to let the scene itself suggest the kind of light used in the particular era—candle light, gas light, etc.—without showing the actual light source in the scene, except in one or two instances. The desired moods were created photographically through lighting."

The lighting is but one of three phases of the overall photographic job of "Four Poster." The others were use of the Garuto "deep focus" lens, and photographically tying in the live action with the "interscenes" done in animation.

With the story staged in a single setting, as in a stage play, and using a cast of essentially stage players instead of screen actors, it was natural that "The Four Poster" should be planned, staged and shot in the manner of a stage play as much as possible in continuous takes of sustained action. Many scenes in the picture run continuously for 7 to 10 minutes, and one scene consumed all but thirty feet of a full magazine of film. This type of photographic treatment could only be possible using the fluid camera and extreme depth of focus that would enable the camera to move about the set and keep all players and the set in focus.

To gain complete freedom for players and camera within the room—so important in a single set—Mohr used the new Garuto balanced lens, already employed with success in Kramer's "Cyranos de Bergerac." The Garuto, camera experts claim, has a depth of focus without distortion, from inches away to infinity. A person in closeup and a painting on the opposite wall register with equal clarity. Because the lens can shoot wide open and preserve focal depth, low-key lighting shows every nuance of mood with naturalness. Given these advantages, the camera in motion can record sustained drama. At least

(Continued on Page 450)
Two New 16mm Films

DuPont Photo Products Dept. recommends new type 930 and 931 emulsions for TV newsmorels and other productions demanding rapid processing.

By JACK VAN NATTA

Two new 16mm motion picture films ideally suited to television film production are announced by the Photo Products Dept. of the DuPont Company. The new emulsions are identified as Type 930 and Type 931.

Type 930 is an improved fine grain panchromatic reversal film which is designed for rapid reversal processing.

Type 931 is a new high-speed panchromatic reversal film designed to give a combination of highest picture speed and very rapid processing characteristics. When processed as recommended, both products give optimum pictorial and single-system sound results for professional television and motion picture production. Highly hardened emulsions characterize both films, making them ideally suited to high-temperature, ultra-rapid processing without impairment of picture or sound quality.

Standard anti-halation safety base contributes to the excellent definition of these two films. Their emulsion and processing characteristics prove ideal for original reversals for immediate use where only one positive is required, as in the coverage of local-interest events for TV newsmorels, for records of sporting events, etc.

While these films were designed especially for processing by reversal, some producers may find it expedient to use them as negatives, as will be described later.

The Exposure Indices for the two films in Table 1 are based upon recommended processing procedure and the use of an exposure meter calibrated in accordance with ASA standard 238.2.6—1948.

It will be noted that two exposure figures are given where the films are to be exposed for reversal processing. For example, Type 930 daylight exposure is indicated as 64 and 80. This is because reversal speeds vary when processed at different laboratories. Some labs are able to obtain the 80 rating while others would be closer to the 64 rating. This, of course, is not a laboratory problem but merely the type of developer used at the respective laboratory. Field tests have proven in most cases that laboratories generally can handle the films satisfactorily when they have been exposed at the highest reversal rating. Again the latitude of both films is such that quality screen results may be obtained, using either the high or low rating for reversal exposure. Pre-production tests, of course, will show what speed should be followed in the photography in order that any laboratory may obtain optimum picture and sound results with these films.

In exposing the films for processing as a negative, the same latitude is available to the cameraman. Field tests have shown that some laboratories obtain even higher negative ratings than those listed above. Again, shooting for the best results through one certain lab is the best procedure.

To aid the professional cameraman in measuring exposure by the incident light method when using these films, the Tables 2 and 3 below have been published by DuPont.

Both the 930 and 931 type films have highly hardened emulsions and may be processed for reversal or as a negative at solution temperatures up to 125°F without impairing the quality. (All solutions, times and wash water should be maintained at approximately the same elevated temperatures.)

Both films have proven to be of great advantage to television stations for newsmorel work, and to photographers of sporting events when used either as negative or reversal material. Type 930, when exposed as a negative for regular 16mm picture production has been widely accepted as a fine grain product where quality is a prime requisite.

Among television stations in the Los Angeles area that have used DuPont 930 and 931 with great success are KNBH, KTTV, and KLAC-TV. Television newsmorel work has become a major part of television station operation, as evidenced by the wide popularity of such newsmorel presentations as that of Los Angeles Times’ station KTTV (Channel 11).

Using Type 930 film since inception of its newsmorel operations in Los Angeles, KTTV has found that the improved Type 930 film has solved most of its photographic problems whenever poor light was encountered on an assignment by its cameramen. Using a Houston automatic rapid film developing machine, KTTV easily turns out its two newsmorel shows on film using the

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<tr>
<td>930</td>
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<tr>
<td>931</td>
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Table 1

<table>
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<tr>
<th>TYPE 930 RAPID REVERSAL PAN</th>
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<tbody>
<tr>
<td>Illumination: Incident light table for incandescent light: 24 frames per second—1/50 second—for reversal</td>
</tr>
<tr>
<td>Lens Aperture</td>
</tr>
<tr>
<td>No. of foot candles required⁹</td>
</tr>
<tr>
<td>⁹When this film is processed as negative material, exposure should be increased by ½ stop</td>
</tr>
</tbody>
</table>

Table 2

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<th>TYPE 931 HIGH SPEED REVERSAL PAN</th>
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<tr>
<td>Illumination: Incident light table for incandescent light: 24 frames per second—1/50 second—for reversal</td>
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<tr>
<td>Lens Aperture</td>
</tr>
<tr>
<td>No. of foot candles required⁹</td>
</tr>
<tr>
<td>⁹When this film is processed as negative material, exposure should be increased by ½ stop</td>
</tr>
</tbody>
</table>

Table 3
Custom-made to Hollywood's demand...

...the world's finest lens series

BALTAR

When the first Baltar Lenses were designed in collaboration with leading cinematographers of major Hollywood studios, they set new, still unsurpassed standards of image quality. Since then they have become the choice of foremost motion picture photographers the world over because of their superb correction and definition, in both color and black-and-white 35mm films. Eight focal lengths, for studio, news and industrial work. Balcote anti-reflection surfaced. For your finest work, order Baltar Lenses from your professional camera manufacturer.

BAUSCH & LOMB
OPTICAL COMPANY
ROCHESTER 2, N.Y.
Here’s a super-telephoto lens you’ll find in no camera store! It’s a special adaptation of 15-inch aerial camera tele-lens, product of the ingenuity of Richard Goddard, cine photographer of San Mateo, Calif. It’s probably the most powerful telephoto lens being used for 16mm photography.

Goddard designed and machined the special aluminum mount, which enables the lens to be used with his 16mm Bolex. At first he tried to find a ready-made mounting to hold the telephoto rigidly before the camera, but none were available. So he decided to make one as a project in learning metal working. The result is pictured in the photos above and at lower left.

Two unique features were built into the unit which are not found in any commercially-available telephoto lens mounts. Of the two the most important, perhaps is a reflex focusing device which permits viewing the subject or scene through the lens while the camera is running. A thin, partially-reflecting mirror inserted in the housing directs a fraction of the light to a viewing screen. The reflected image is identical to the one reaching the film, except for brightness. An image enlarger, which normally allows the photographer to see the camera’s own ground glass, fits onto the telephoto mount and is complete with eye-piece, as may be seen at right of camera in the accompanying illustrations.

Supporting both the camera and the telephoto lens and mount is a gun-stock type base made of hardwood. This has provision for mounting on tripod and allows for swinging the camera away from the telephoto when any one of the

(Continued on Page 455)
EASTMAN
PROFESSIONAL
MOTION PICTURE
FILMS

W. J. GERMAN, INC.
Fort Lee Chicago Hollywood
Magnetic Sound For 8mm Movie Makers

Movie-Mite Corp., first on the market with an 8mm magnetic recorder-projector, makes synchronized sound a reality for narrow gauge filmers.

By LLOYD THOMPSON

Sound for 8mm films is now a reality. Experiments in adapting sound to the narrow-gauge film, which began several years ago, have culminated in a successful application, and the first 8mm magnetic sound recording projector, the Movie Sound Eight, is now on the market. Product of the Movie-Mite Corp. of Kansas City, which pioneered some years ago in the low-priced 16mm sound projector field, the Movie Sound Eight is the result of several years unhurried experiment and development. Even though the manufacturer has achieved the distinction of being the first with a projector in this field, the company was determined not to rush into the big, waiting market with a half-developed or inferior product.

The Movie Sound Eight is both a magnetic sound recorder and a playback instrument so that the cine filmer can now make his own sound-on-film movies, or record sound on his old films after they have been stripped for recording. The machine is a complete unit in a single case that has a built-in 6-inch speaker and a microphone. An important feature is the two-channel mixer-amplifier that enables the user to record sound simultaneously from two sources, as for example from a phonograph providing background music and from the microphone through which dialogue or narration is recorded. Equally important is the fact the machine will handle reels up to 1600 feet capacity—providing feature-length showings of 8mm movies in the home.

In order to make 8mm magnetic sound movies successful, it was necessary for Movie-Mite to design and build an entirely new projector, rather than adapt magnetic sound to a conventional 8mm silent machine, and it was necessary to incorporate an entirely new method of sound take-off to overcome many of the problems inherent in the small size of 8mm film.

The magnetic sound stripe on 8mm film is placed between edge of the film and the sprocket holes. This posed the problem of distortion induced by the sprocket holes which normally cause an uneven flow of the film past the sound head. In order to solve this problem on the Movie Sound Eight, a new film movement was designed known as the Roto-Magnetic Stabilizer. The sound drum is slightly tapered so that the film has a tendency to run to the outside edge of the drum at all times. This provides most of the edge guiding necessary to keep the narrow sound track in the best contact position with the record and playback heads. Incorporating these important features into the machine made it possible to build a projector which is extremely easy to thread.

Feed and takeup sprockets are driven by a worm gear which is connected to the motor by means of a special rubber
The "Once-In-A-Lifetime" Thrill

There's no thrill like winning an award with your movies. Most any amateur can do it who approaches the task of filming seriously.

By LEO J. HEFFERNAN
Metropolitan Motion Picture Club, New York, N. Y.

What is the thrill that comes once in the lifetime of an amateur moviemaker? Obviously it would stem from some outstanding event during his moviemaking career. It might be the day on which he was notified that one of his films had won an award in a national contest. Or simply when he puts the finishing touches to a film he knows will be his masterpiece.

Be that as it may, we all have one thing in common. Even the least among us is trying to get something out of the hobby of moviemaking. We are using it as a means of personalized expression, a form of speech.

It will be sufficient to say that we are putting the stamp of our own individual personality upon a cine creation of one sort or another, and just as a painter starts with a blank canvas, we commence with a roll of unexposed film. From that point on, it is entirely up to us—so how could amateur moviemaking be anything else except a means of personal expression?

Individualism is the keynote of success for every amateur movie—it will always be the unusualness of a film which will impress an audience. One need not search far and wide for novel screen fare, so why rush off to Timbuctoo or Afghanistan just to get shots which have never been filmed before? One of the most dismal moviemaking failures I have ever seen was a film of the fabulous Vale of Cashmere. It didn’t seem to quite “come off.”

No, “unusualness” is a cine quality which generally originates in the brain of the cameraman. It doesn’t just “happen.” It is introduced into the footage in hammer-and-tongs fashion—and its inception must precede the clicking of the movie camera.

Samuel Johnson once said, "There are no lengths of pains, worry and physical labor to which a man is not willing to go in order to avoid the real work of thinking!" Fresh, creative thinking will always mean hard work, but it is the only way in which the stamp of unusualness can be put upon a movie production. We cannot rely entirely upon novelty in the film subjects themselves—we must cudgel our brains to devise new ways of presenting the material which will keep an audience perched on the edge of their chairs. It is lack of spontaneity which accounts for many amateur movie flops. Another contributing factor in movie failures is too great consideration to "cost sheets." Some of us would like to budget 400 feet of film to a production and come out with a movie exactly 400 feet long. There will never be a prize-winning movie made on this basis, and the reason is quite simple.

By hewing too close to the line, a movie amateur deprives himself of a daring ally—experimentation. He does not permit himself the luxury of those wonderful mistakes which often bring about the triumph of art over matter by breaking down rigid, stultifying habits. How nice to be able to say, "Today I shall go out with my camera and film only mistakes. Perhaps one of them will turn out to be worthwhile!"

In all art, disorder is fruitful in results, provided one does consciously what he is trying to do unconsciously. Having an overall plan in the back of his mind will permit a cameraman to go forth into the unknown, and come back with a variety of scenes which will hold together in a film. It is being done right along by expert filmers who have learned the trick of getting the thrill that comes once in a lifetime every single day in the week.

One way to bring nebulous moviemaking plans to the point of realization is to set oneself a deadline—a date beyond which you will not go without having made a start on the movie you have in mind. This works wonders for people who have been making a trip somewhere. If they say they will start on a particular day and make arrangements in advance, they will undoubtedly go on that day. Otherwise, it is possible that they will put it off if other matters come up in the meanwhile.

It seems to me that a million things can rise up to interfere with moviemaking plans, but I have never found that it was impossible to meet a moviemaking
New 8mm Projector

Bell & Howell discards carrying case for slick self-contained styling for its "221" projector that takes 400-foot reels.

Reflecting the trend of cine equipment manufacturers to give the 8mm movie maker the very best in projection equipment is the announcement this month by Bell & Howell Company, Chicago, of its new Model 221 8mm projector.

Discarding the old-style separate carrying case, Bell & Howell's engineers have provided something really new in movie projector convenience. The Model 221 is self-contained in a smoothly molded grey and maroon case. One side of the case snaps off to expose the unit's film handling parts for projection of pictures. The projector is precision built on a rigid all-aluminum frame. Reel arms are hinged and fold neatly out of sight into the case when not in use. Bell & Howell has taken a step in the right direction here by designing the reel arms to hold 400-foot reels of film—enough for a half-hour show. Another attractive feature of this new model is that it is unnecessary to switch reels from front to back for rapid rewinding. The film winds right back on the forward reel, after threading, simply by flicking a switch.

Bell & Howell makes a point of the fact that the family now can get more service out of its 8mm movies, because with the "221" it's no longer necessary to wait until father comes home in the evening to enjoy family movies. Any member of the house including the kiddies, can operate the "221," it's that simple to thread and use.

A single switch controls the lamp, motor and rewind. There is a swing-out film gate that makes threading of film easy for anyone. Film threading instructions are clearly indicated on a printed guide inside the front cover of the projector, and this guide card can be turned over to serve as a miniature projection screen and the cover as a "shadow box" as an aid to film editing.

For the first time perhaps an 8mm projector has been designed with the object of fully protecting the film from scratches and abrasions. No part of the "221" ever touches the picture area of the film, thanks to recessed sprockets and film rollers that are a part of the precision film transport system. And in the film gate itself—often a critical area...
where film damage is concerned —
side tension clips hold the film from the
side instead of pushing it head-on
against the aperture plate.

On the screen you get well-lighted,
brilliant pictures, thanks to well-design¬
ed optics. Bell & Howell claims the
"221" puts more light on the screen
than any other 8mm projector with a
500-watt lamp.

The "221" with its myriad of im¬
provements and innovations is just what
the 8mm movie maker needs to bring
out the best in his movies and to
demonstrate that 8mm movies can be
satisfactory movies if one has the right
equipment for showing them.

The Bell & Howell 221 is extremely
quiet in operation and has life-time
lubrication, making it unnecessary to
keep an oil-can on deck during projec¬
tion. The sturdy motor provides smooth
operation on 90 to 130 volts of AC
current. Its compact size and its ex¬
tremely light weight—only 12 pounds—
makes it ideal to carry in the car for
showing movies away from home. And
its low price of $99.95 makes it ideally
suited to budget pocketbooks, too.

SOUND FOR 8MM
(Continued from Page 441)

Stripe." There is also the probability
that Eastman Kodak may soon provide
a special soundtracking service whereby
a magnetic sound stripe will be applied
to 8mm Kodachrome films sent in for
processing, at a nominal charge of $1.75
per 50-foot roll, when so ordered by
the customer.

To record with the Movie Sound
Eight, the operator first threads the pro¬
jector with a length of Magna-Striped
8mm film. The control switch is then
turned to either the "PA" position or
the "rehearse" position, and the oper¬
ator speaks into the microphone or
plays music on a record player until
the volume indicator lamp flashes to
indicate the proper sound level has been
attained. After this has been set, the
control switch is turned to the "record"
position; this also starts the projector.
A safety device on the control switch
panel prevents accidental erasure of
previously recorded sound. After the
recording is finished, the film can be
played back immediately as soon as
rewound.

If, for any reason, the sound is not
suitable, it can immediately be recorded
over again. The old sound track will
be automatically erased as the new one
is recorded.

With two input positions, one for the
(Continued on Page 445)
A MESSAGE TO ADVERTISERS

To Sell

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AMERICAN

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AMERICAN CINEMATOGRAPHER reaches all fields of 35mm and 16mm motion picture production—

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• Industrial Film Makers
• Educational Film Producers
• Amateur Movie Makers
• Film Laboratories
• Foreign Film Producers (67 countries)

Why be satisfied with anything less?
record player and one for the microphone, it is possible to record both music and voice at the same time. If the user wishes to record from two records and a microphone so that a smooth transition may be made from one record to another a small sound mixer is available for use with the projector. This allows sound from several sources to be mixed and recorded. A jack is also provided so that a pair of head phones may be used for monitoring purposes. This is almost necessary when background music is being played behind the voice in order to get the best balance between voice and the music. Undoubtedly, many 8mm movie makers with old films will find it satisfactory to record sound on them at the 24 frame per second speed even though the pictures were exposed at silent speed. This has been a procedure followed in 16mm business for years, where only 24 fps recording speed has been available. In spite of that, a number of pictures which were shot at silent speed were recorded at 24 frames per second, and the results were entirely satisfactory. The only way to really find out whether or not such a result will be satisfactory, is to first project your films at 24 frames per second.

Eight millimeter sound-on-film should open up many new and interesting possibilities in the motion picture business. For several years the number of amateurs using 8mm movies has far outnumbered those using 16mm film, but this is the first time the "eights" have been able to get sound on their film without employing methods which were less satisfactory than having it on the film itself. The economies afforded by the use of 8mm film will probably make it desirable for use for some industrial purposes, and certainly in educational uses it will offer interesting possibilities. Many schools now will be able to make their sport movies in 8mm with sound as well as color. More schools are teaching visual education classes and 8mm sound-on-film will now make it possible for classes to produce many of their own teaching films. Complete records of scientific projects can be filmed in 8mm and the necessary explanatory commentary added by magnetic sound track as soon as they are returned from processing. The person doing research work can now have a complete record in both pictures and sound at the end of the project. Countless other uses could be mentioned, but experience has shown that once a new tool is introduced, others will find many more new uses for it than did the inventor.

END
PUTTING THE RED SKELTON SHOW ON FILM
(Continued from Page 431)

Jackman's filming procedure is similar to the “continuous system” previously established by Karl Freund, A.S.C., for the “I Love Lucy” and “Our Miss Brooks” TV film shows. Three 35mm Mitchell cameras are mounted on small cranes, affording coverage of the show from different angles. Each camera is manned by an operator, an assistant and a grip to maneuver the crane.

Placement of the various cameras is worked out during rehearsals. The position each camera is to occupy for each take and the direction and extent of travel of the crane is charted on the stage floor by means of colored arrows. The red arrows indicate the floor positions for the No. 1 camera, the white arrows for the No. 2 camera, and blue arrows for the third camera. The numbers on the arrows indicate camera positions for the various takes; and the direction the arrows point indicates direction crane is to be dollyed during a shot.

Conventional motion picture set lighting equipment is used. Except for two floor lights, all units are suspended from overhead, providing a clear floor for the cameras to move during the show. In addition to the overhead lighting units, most of which remain more or less in fixed position, there are four strip lights suspended from edge of balcony, two Columbia Studio “cone lights” on the floor, and the filler lights mounted on each camera.

In one corner of the stage, beneath the balcony, are a number of dimmer banks and switching panels. Power cables from all the lamps terminate here. As a guide for the gaffers, a chart is maintained indicating graphically the location of every lamp on the set controlled by the switches and dimmers. Each lamp is numbered and its switch at the control panel carries a corresponding number.

Because the photography is the most important technical operation in the show, it was organized as a subsidiary under the direction of Fred Jackman, Jr. It is in Jackman’s suite of offices on the Eagle-Lion lot that much of the lighting for each show is planned after a perusal and discussion of each new script. Jackman operates much the same as a sub-contractor — providing the cameras, lighting equipment, camera crews, gaffers and grips necessary to photograph each show.

During the filming, Jackman directs the photography and controls operation of the cameras themselves from a glass-enclosed booth beneath the balcony. Instructions are relayed to the camera operators and grips through an intercom phone system, as Jackman follows

New Development in Additive Color

Equipment which may make the use of the additive color processes practicable and print cost equal to that of black-and-white is proposed by a French inventor, J. R. Huet, who has recently demonstrated a process which he is developing, according to Kinephotograph Weekly, British trade publication.

The system demonstrated is of the classical type, with alternate frames photographed and projected through different filters. In place of a single filter for each color, however, both taking and projecting filters are built up of a number of narrow strips, those on the blue side ranging from purple, through the blues to green, and those on the red side from green to red and purple. This principle, Huet claims, reduces color pulsation.

The reel of film demonstrated by Huet consisted of Parisian exteriors, and small interiors taken in a private house. The color range restored one’s faith in the ability of the additive processes to produce pleasing colors. Color fringing was, of course, noticeable, but Huet proposed to overcome this by means of a two-film camera. A more difficult problem which still remains is color pulsation; notwithstanding the filter array, pulsation was noticeable even at the low level of illumination produced by a portable projector, on the primary colors.

Normally the showing of alternate-frame additive films would necessitate an alteration to the projector. Mr. Huet’s idea to overcome this is to mount the filter device separately from the projector, driven by a motor synchronized with the projector. By this means, no alteration to the projector would be needed. However, the loss of light inseparable from additive projection would remain.

As an alternative, he proposes supplying subtractive color prints, although in this case he has not explained what advantage would be gained over a normal bipack process.
the script. The remote control switch enables Jackman to start and stop each of the three cameras from the control booth according to the plan for cutting the footage. Substantial economies are thus effected in film and processing costs by this unique system which enables Jackman to “rough cut” the show as it is being shot, switching a camera on and off only as needed for a particular shot. Some times, of course, and possibly all three cameras shoot a scene at once; but in all cases, the operators keep the cameras constantly focused on the action regardless of whether it is exposing film or not. When a camera is “on,” a red “bullseye” in front of it lights up as a guide to Skelton and his cast.

The company purchased its own magnetic sound recording equipment from Stancil-Hoffman, and this is set up in a room adjoining Jackman’s camera control booth. The takes made by the various cameras are automatically identified with the sound track whenever Jackman switches on the cameras. Flicking a secondary switch on the panel just below the camera starting switch causes a cue light in the camera to place a mark on the film and a corresponding cue mark on the sound tape, enabling the camera footage to be matched to the sound track during editing.

Jackman exposes an average of 10,000 feet of 35mm negative for each show, which is edited down later to the half-hour show seen several weeks later on NBC television.

The routine described here is followed twice weekly, for in addition to the Red Skelton Show for Tide, the company also turns out the new Eddie Mayehoff television show, following the same technical procedure and at the same studio. Production of the two shows requires the time of both technical staff, stars and members of casts five and six days each week, planning, rehearsing and finally putting the shows on film.

Jackman’s filming system has proved entirely successful. Not only does it contribute greatly to speeding up production of the shows, but slices considerable time from the editing chore. Finally, there’s the big savings in both negative cost and laboratory expense effected by the interval instead of continuous operation of the three cameras, all of which bids fair to establish the system as standard for photographing TV shows performed before an audience.
with the lens opened to its widest stop.

A sequence in which the protagonist ascends a stairway and emerges into the grand concourse of the Pennsylvania Station presented its own special set of problems. Again the camera was concealed—this time in a large refrigerator packing case mounted on wheels so that it could be pushed along for a trucking shot. The scene had to be shot so fast that the crowd would not recognize the star and become bothersome. The scene was okayed on the second take, and the passers-by merely thought that a crated refrigerator was being trucked along for shipment on one of the trains.

The lighting inside Penn Station became a veritable nightmare. Here again, the total illumination came from natural sunlight filtering in through high windows. But outside the sun was playing tag with a bank of clouds, so that the exposure varied from second to second. Leavitt had to station an observer outside to let him know (by means of complicated arm signals) when the sun could be expected to peek through long enough to make the shot.

Two suspense-filled sequences of “The Thief” take place in Washington inside the Library of Congress, and this entire footage was shot between the hours of 10 p.m. and 8 a.m. one night while the building was closed to the public. All of the lighting inside the Library was accomplished with portable Colortran units—no small achievement when one considers the size of the room and the fact that it is panelled entirely in dark mahogany that soaks up light like a sponge. During a break between set-ups on this sequence the camera crew dashed out and shot the striking main title background scene which shows a man looming up in silhouette against the illuminated dome of the Capitol building.

There are several scenes in which characters inside buildings are shown looking out of windows toward real backgrounds. Aside from the terrific depth-of-field required to hold both planes sharp, there was the problem of balancing an outdoor f/22 light with an interior illumination of f/2.3. Again the trusty Colortrons plus a careful selection of filters did the trick.

The climactic sequence filmed inside the antenna tower of the Empire State building was shot with a hand-held Eclair camera, since there was no room to set up a Mitchell. The gaffer managed to squeeze in a couple of Colortran lights to produce an exposure and par-

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**Triple-head Moviola Edits “I Love Lucy” TV Shows**

DESI ARNAZ, co-star of “I Love Lucy” TV show and cinematographer Karl Freund, A.S.C., display the special triple-head Moviola built especially for Desilu Productions and which is used by company to expedite editing of company’s two weekly television shows—“I Love Lucy” and “Our Miss Brooks.” Equipment enables company to rough-cut a show in one day.
tially balance the extreme brightness contrast ratio with the outdoors. These units were also used effectively inside the hallways of a boarding house in Washington. Here various planes of the “set” were illuminated and the characters walked from shadow into light, producing a great illusion of depth.

Photography of “The Thief” is distinguished by forceful compositions and unusual camera angles, such as in the sequence where the camera shoots from directly overhead to accentuate the confinement of the man hemmed in by the four walls of his rooming house prison. In explaining his bold technique, Leavitt points out: “I wanted to use an off-beat style—not just to be different, but because the story was an unusual one and called for visual presentation that was out of the ordinary. And also because it was up to the camera to point up details that would ordinarily have been accentuated by dialogue—if there had been any.”

His flair for the unusual, coupled with great technical skill is evident in the opening scene, in which the camera pans and dollys all over the set, through doors and back again—eventually describing a 360° arc. The moving of wild walls in and out of place as the camera trundled by in this shot was a major maneuver in itself.

Sam Leavitt started his motion picture career 30 years ago at the old Tannhauser Studios in New Rochelle. After 10 years in the lab, he became an assistant cameraman for the Paramount Studios at Astoria, Long Island, where he eventually worked as operator for George Folsey, A.S.C., and Joseph Ruttenburg, A.S.C. He came to Hollywood in 1935 and worked at Republic, Columbia and Paramount as an operator. In that capacity he went with Harry Stradling, A.S.C., to M-G-M where he worked from 1940 to 1948, operating for Stradling on such films as “Anchors Aweigh,” “The Pirate,” and the Oscar-winning “Picture of Dorian Grey.”

He worked with Rouse and Greene on their production of “The Well” as operator, but “The Thief” is his first major dramatic film as Director of Photography. Judged from the standpoint of originality plus sheer technical excellence, it should definitely place him in the big leagues.

The American Television Society has published a 16-page brochure that presents the findings of its committee on TV film commercials, based on information gathered from 150 agencies and producers. 

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PRODUCTION EQUIPMENT

ARRIFLEX II, 2-200' mags, 3 Astro lenses, sunshade, case, excellent.............$995.00
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NOW TAKING ORDERS FOR 16mm ARRI¬FLEX, delivered in nine months.
CINE-SPECIAL II, 25mm Ektar fl.9 lens, like new condition..........................$795.00
CINE-SPECIAL I, 15, 25, 65mm lenses, 100' and 200' chambers, case, excellent.$775.00
MAUREN 16mm film phonograph...........$1,595.00
AURICON CM-71 sound camera............$1,295.00
AURICON CINE-VOICE camera, amplifier, all accessories, demonstrator........$930.00
AURICON SUPER-1200 sound camera in stock.
BGH DIPLOMAT projector and case.....$140.00
VICTOR silent 1600' projector...........$60.00
CAMART Slate and clapstick.............$10.75
CAMART Triangle .....................$26.00
DUPLEX 35-16mm reduction printer $595.00
E-K variable speed motor...............$185.00
Bardwell-McAlister baby key boomlight and stand, like new.................$125.00
Dinkie-Inkie baby spots...............$12.00
CECO bicycle seat dolly..............$195.00
CECO sunshade for Bolex................$35.00

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TELEFILM, INC.
6038 Hollywood Boulevard
Hollywood 28, California

"THE FOUR POSTER"
(Continued from Page 435)

three scenes in "The Four Poster" continue without pause for seven minutes, 40 seconds. Camera technique at last could do justice to the stage technique of Harrison and Miss Palmer.

Mohr used the Garutso lens almost continuously at a stop of 1/23 and at no time was it stopped down below that point. One of the important advantages the Garutso affords, according to Mohr, is the ability to work at constant aperture. Moreover, it means more freedom for the cast; there is no need to keep every player on the same plane on the set or to make cuts back and forth between players as is usual practice when a deep-focus lens is not used. Depth of focus, of course, can be achieved to some extent with conventional lenses, but this means pouring more light on the set to compensate for the smaller stop that must be used.

For the first time, perhaps, the deep focus feature of the Garutso lens was combined with the fluid, dolly-mounted camera to achieve what are undoubtedly the longest sustained action shots ever filmed for a feature picture.

An excessive talkiness often slows stage plays dealing with passage of time. The actors must spend minutes setting the stage for a restive audience. Scott, having knitted a tight script in eight scenes, wasted not a minute in exposition. He sought instead some refreshingly new linking device. Worked to death already was the usual pattern was for Reis to put his players through a rehearsal while Mohr watched from the sidelines. Afterward, Mohr would make suggestions for changing a player's position or line of action in order to enhance the photography for the best dramatic effect.

Because of the many challenges it presented, Hal Mohr considers it a real privilege to have been chosen to direct the photography of "The Four Poster." But to Stanley Kramer, the producer, the man whose expert camera artistry garnered Oscars for filming "A Midsummer Night's Dream" in 1935 and again in 1943 for "Phantom of the Opera" was made to order for the assignment.

(A.D.V.)
new fast DuPont 16mm films. Events can be shot as late as 4 p.m. daily and the film made ready for telecast by 6:45—less than three hours later.

Still another west coast TV network station turns out a daily newsreel on film in similar manner, with one exception: using DuPont 930, the film is exposed and processed as a negative, then televised in negative form—with the image reversed electronically during telecasting in order to produce a positive image on home receivers. This station also makes wide use of 16mm news footage supplied from associate stations in its network, and some idea of the fine image quality inherent in this miscellaneous footage photographed on DuPont 930 and 931 stock is the fact that it is successfully kinescoped on 35mm film by this station for later telecast.

Television newsreels have become such an important program feature that it seems likely every television station in the future will have its own local newsreel operation, with the station photographing news events on 16mm film, and processing the film in its own newsreel headquarters with the compact fast processing equipment that is available today.

Educational institutions also are finding 930 and 931 films ideal for photographing sports events such as football and basketball games, where invariably the light is of poor quality. Roy Priebe, official cameraman for the Los Angeles Rams professional grid team has found the improved Type 930 film, photographed and processed for reversal, to have plenty of speed for shooting night football games.

Leonard Clairmont, cameraman for 16mm Screen Service Co., Hollywood, has tested the 930 stock as negative material and claims the film is ideal for 16mm negative-positive film production.

Cameramen who shoot night horse racing have always been faced with the critical problem of consistent exposure. In most instances, either 930 or 931 has proved the answer to this problem. Moreover, the unusually hard emulsion of these two films fit ideally into the race tracks' requirements for a film that will take fast processing under pressure of time and give acceptable pictorial results.

As a helpful service to 16mm cameramen and laboratory men everywhere, as well as to producers of motion pictures, DuPont has available two compre (Continued on Page 458)
Television Film Production
By Leigh Allen

Pointing up the spectacular progress made by the TV film industry is the fact video-film programming for this Fall has virtually doubled. The Hollywood trade-paper, Daily Variety, pointed out recently that there is a total of 47 sponsored TV film programs set for this Fall as compared to 25 last year. Cited as reason for increased TV film production activity are such successes as the "I Love Lucy," show, and "Dragnet." Both shows have been topping the Nielsen, Hooper and other ratings.

The big swing to filmed TV programs shows that sponsors have finally come to realize that filmed shows solve the time problem, always a headache with live TV.

New TV programs going to film this Fall include several popular shows formerly live, such as Burns and Allen, being photographed by Phil Tanamura, ASC.


Hopalong Cassidy series, for NBC-TV; "Mr. and Mrs. North," Barbara Britton, Richard Denning, produced by Federal Telefilm, for NBC-TV; "Margie," produced by Roland Reed Productions; "Ford Theatre," all-star casts, produced by Screen Gems; "Joan Davis Show," Joan Davis, producing, NBC-TV; Burns & Allen, produced by the McCadden Corp.; "Death Valley Days," for Borax Co., produced by Flying A; Eddie Mayehoff series, for NBC-TV, produced by Key Productions; "The Doctor," produced by Parsonnet Productions, NBC-TV.


When a major producer of TV film shows was engaged to turn out a series of 12 and 15 minute TV films plugging Democrat Adlai Stevenson for president, the company's regular director of photography was replaced by another to shoot the series as result of careful screening, which revealed the cinematographer was an avowed Eisenhower man!

Because many potential local sponsors had complained that television advertising costs too much, KSL-TV, in Salt Lake City, is combating the misconception by offering top-notch facilities and camera talent to match.

KSL-TV studios, one of the best in the west, can quickly be converted to film production for TV commercials and spot announcements. Richard V. Thiriot, the station's film editor-cinematographer is available with extensive lighting and photographic equipment, and already has produced a considerable number of TV advertising films for the station's clients.

Thiriot, a former amateur 16mm movie maker, won an American Cinematographer Award in 1950 for his color film, "Navajoland."

Alfred Gilks, ASC, who has been won over to TV film production, is directing the photography of the Joan Davis show. The show comprises a series of 26 half-hour situation comedies under title of "I Married Joan," starring Miss Davis and Jim Backus.

SEPTEMBER TV FILM PRODUCTION: The following cinematographers were engaged in Hollywood last month direct-
ing the photography of films for television:

Gert Anderson, Screen Gems’ “Divided Heart” series at Columbia Studios.

Lucien Andriot, A.S.C., Bing Crosby Enterprises, RKO-Pathe Studio.


Ellis Carter, A.S.C., Federal TV Corp., Goldwyn Studios; also, Screen Gems, Columbia Pictures Corp.

Dan Clark, A.S.C., Ziv Productions.


Curt Fotters, Ziv Productions, California Studios.

Ellis Carter, A.S.C., Revue Productions, Republic Studios.

Karl Freund, A.S.C., Desilu Productions, General Service Studios.

Frederick Gately, A.S.C., John Guedel Productions; also for Volcano Productions, General Service Studios; also for Jan Productions, Inc., General Service Studios.

Alfred Gilks, A.S.C., Joan Davis Productions.

Fred Jackman, Jr., A.S.C., Key Productions, Eagle Lion Studios.

Benjamin Kline, A.S.C., Frank Wisbar Productions, Eagle Lion Studios.

Joe Novak, Roy Rogers Productions, Sam Goldwyn Studios.

Kenneth Peach, A.S.C., Jerry Fairbanks Productions.


Clark Ramsey, Revue Productions, Republic Studios.


William Snyder, A.S.C., Doug-Fair Productions, RKO-Pathe Studios.

Mack Stengler, A.S.C., Roland Reed Productions, Hal Roach Studios. Also William Boyd Productions, General Service Studios.

Alan Stensvold, Frank Ferrin Productions.

Walter Stengele, A.S.C., Roland Reed Productions, Hal Roach Studios.

Phil Tannura, A.S.C., McCadden Corp., General Service Studios.

Charles Van Enger, Marion Parsons Productions.


Lester White, A.S.C., Don Sharpe Enterprises, RKO-Pathe Studios.

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★ Hangs from a nail on the wall.
★ Clamps to a chair, door, top of set or stand.
★ Sets on floor as a foot light.
★ Adaptable to almost everywhere.
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Circle 5-4691

TV is BOOMING!

TV film producers will treble their output the next twelve months, will buy three times more equipment, film, etc.

If you have something to sell this growing market, make sure you get your share of sales by advertising in AMERICAN CINEMATOGRAPHER —reaches every television film production center.
Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Allied Artists
- Harry C. Neumann, "Son Of Belle Starr," (Cinecolor) with Keith Larsen, Peggy Castle, Donna Drake, Regis Toomey, Myron Healy, Frank McDonald, director.
- William Sicker, "Tangier Incident," (Lindsay Parsons Prod.) with George Brent, Mari Aldon, Dorothy Patrick, Dan Seymour, Alis Talton, Benny Rubin, Lew Landers, director.

Columbia

Metro-Goldwyn-Mayer
- Frederick A. Young, "Invitation To The Dance," (Technicolor) (Shooting in London) with Gene Kelly, Igor Youskevitch, Gene Kelly, director.

Monogram

Paramount
- George Stevens, "Little Boy Lost," with Bing Crosby, Claud Ingersol, Nicole Maurey, Chris Fourcade. George Seaton, director.

American Society Of Cinematographers

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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20th Century-Fox
- Leo Tover, "The President's Lady," with Susan Hayward, Charlton Heston, Fay Bainbridge, Gladys Hulett, Charles Dingle, and John McIntyre, Henry Levin, director.

Universal-International
- William Daniels, "Thunder Bay," (Technicolor) with James Stewart, Joanne Dru, Gilbert Roland, Dan Duryea, Marcia Henderson, Jay C. Flippin, Anthony Mann, director.

Warner Brothers
- Wilfred Clift, "By The Light Of The Silvery Moon," (Technicolor) with Doris Day, Gordon MacRae, Rosemary DeCamp, Leon Ames, Mary Wickes. David Butler, director.

Independent
- Win. Hoch, "Return To Paradise," (Technicolor) (Aspen Pictures Prod.) with Gary Cooper, Roberta Haynes, Barry Jones, Moira MacDonald, and John Hudson. Mark Robson, director.
- Joseph Broch, "The Tall Texan," (T. Frank Wood Prod.) with Lloyd Bridges, Linda Cohn, Marie Windsor, Elmo Williams, director.
camera’s normal turret-mounted lenses are to be used.

Installing an over-size telephoto lens on a cine camera is generally a lengthy operation, which is the reason that many professionals using 16mm cameras with long telephotos prefer to have an extra camera on hand when shooting with lenses of shorter focal length is called for. Goddard’s mount was designed to permit changing from telephoto to normal lens in less than ten seconds. The telephoto can be quickly disengaged from the camera turret with a few turns of the threaded coupling. The threads were made extra large to facilitate quick mounting and de-mounting.

According to Goddard, it is unnecessary to change exposure to compensate for the slight amount of light lost in the viewing system. The telephoto assembly has proved invaluable to him in filming wildlife, although he also uses it for other subjects. Objects 300 feet distant appear on the screen as though photographed with a normal lens only 20 feet away. Goddard’s friends refer to the new tele-lens assembly as a second cousin to the famed Mount Palomar telescope, a most fitting description, incidentally, because with it Goddard has photographed some remarkable studies of the moon.

**New Cine Camera Lenses**

Wollensak Optical Company, Rochester, New York, announces several major advancements in the manufacture of its line of cine lenses.

The entire Cine Raptar line of 8mm and 16mm cine lenses has been redesigned to take a drop-in filter. Filters fit in back of the lens hood (sunshade) without the need of a retaining ring. They become an integral part of the lens, are held rigidly in place and can easily be replaced by other matched Wollensak coated, optical glass filters.

All Wollensak Cine Raptar lenses, either 8mm or 16mm, are supplied with coated optical glass haze filters at no extra cost. Since the haze filter is basic in movie making and should always be used when shooting daylight Kodachrome, this innovation gives cine camera users a complete lens.

Wollensak has designed and added 7 new Cine Raptar lenses to the most complete cine line in the field. All have sunshade, Wocoted optics, chrome barrels, and undergo critical tests and inspection, according to the manufacturer.
WHAT'S NEW
in equipment, accessories, service

Gun-stock Mount — Paillard Products, Inc., 265 Madison Ave., New York 16, N. Y., announce a novel gun-stock mount designed especially for the Bolex H-16 cine camera by internationally-known sportsman and big-game hunter, Dr. Andras Laszlo. The stock affords extreme steadiness and filming control in nature filming, etc., especially when the Bolex turret is fitted with full complement of lenses. It is available from most camera stores on special order, or direct from Paillard.

Sun-Chart Photographic Aid — Crocker Films, Inc., 108 Marlboro St., Boston 16, Mass., announces a new guide for the photographer called the Sundicator which tells at a glance the hours best suited for photography on any given day; to predict the hour at which the sun will strike from any desired direction; and to tell the time at which the sun will clear an obstacle between sun and subject. The Sundicator also indicates the best angle from which to shoot at any future time, thus aiding in the planning of shooting sporting events, parades, fashion shows, etc.

The Sundicator is pocket-size, retails for 50c.

Synchronizer For 3-Dimension — Century Projector Corporation, New York, announces a new synchronizer for adapting Century theatre projectors for showing three-dimension pictures.

Synchronizer, which is attached to the Century projector mechanisms, consists of an interlocking device which insures that shutters of the two machines will open and close simultaneously, in exact synchronism.

A feature provides that the projectors may be changed from regular theatre, single film operation, to third dimension at any future time, thus aiding in the planning of shooting sporting events, parades, fashion shows, etc.

(Continued on Page 458)
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MORE SPECIALS FROM S.O.S.

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BASS - Chicago, Camera headquarters for 42 years offers money saving buys in guaranteed used equipment. 400 ft. Magazine, filter slot and box 12. Film, Camera Equipment Co. Rack-over, 110v-AC-DC motor. Fitted Carrying Cases. Complete outfit $1,950.00.

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Moviola Model 20, complete with battery cases, microphone, etc., excellent condition. $750.00

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AURICON Film Reading outfit—guaranteed like new: Film Reader model R20; noise reduction amplifier with mike and input phone; Model R20; portable power supply model PS20. High fidelity microphone, stand and professional boomy clacktaps, headphone and speaker monitors. Heavy duty turn table. AURICON Bleeper with special and microphone, excellent condition. $1,950.00

FOR SALE

SAVE AT STAR! 16/35mm Precision Sound Reader, slightly used; 1950 watt Baby Solarpot, new, $150.00; Sound Optical Units, new, $3,50; DeMey 16mm Sound Projector, excellent, $195.00. 90v DC exciter supply, $45.00; Neumade Dynamic Rewinders, excellent, $75.00 each; Used recently for STAR CINEMA SUPPLY CO., 441 West 50th Street, New York 19, N. Y.

MAURER 16mm camera, Cine Specials, blimp, complete assemblement, still camera, lenses, cables, etc., for sale. Write for complete list. Box 1160, AMERICAN CINEMATOGRAPHER.

16MM HOUSTON processing machine. Model K1A. Like new. List $5,500.00. Bargain at $3,500.00. CAMERA EQUIPMENT CO. 100 Broadway, New York 19, N. Y.

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Classified Ads (Continued from Preceding Page)

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WHAT'S NEW? (Continued from Page 456)

Complete data and price may be had by writing the manufacturer at 729 Seventh Ave., New York 19, N.Y.

Chemical Fades — Craig, Inc., Plainville, Conn., a division of Kalart, offers the amateur movie maker a quick and effective method of making fades, wipes, etc., in his films after the film has been exposed and edited. Thus, the amateur may put fades in his films exactly where he wants them, using Craig Fotofade, a dye chemical which is easily dissolved in water.

Dye fades are permanent and non-fading. Length and density of fades are easily controlled. Center, side and cross wipes are made in a matter of minutes.

Offered free to readers of American Cinematographer is a copy of Craig’s popular new booklet, “Tips and Tricks On Movie Editing,” in which the process of making dye fades, wipes, etc., is fully explained. You may have a copy by writing the company at Plainville, Conn.

The first photographic lamp catalog ever to be produced is now being distributed to the motion picture industry by General Electric Company through its various district sales offices. General Electric’s new 24-page, four-color catalog features company’s complete line of lamps for all photographic services, illustrates and describes all types and sizes of lamps and gives technical data and prices. Lamps range from photo-flash to studio lighting and projection lamps.

Automatic Positive Control from camera to screen is offered in the excellent line of motion picture production equipment offered by Houston-Fearless Corp., Los Angeles. Motion picture producers, laboratories, and television film companies are invited by the company to write for complete information on Houston-Fearless film developing machines, color printers, friction heads, color developers, camera dollies and tripods, camera cranes, and film printers.

Also, company specializes in the design and construction of such equipment to meet specific needs.

Write to the company at 11390 West Olympic Boulevard, Los Angeles 64, California.

BULLETIN BOARD (Continued from page 442)


RAY MALA, 46, one-time movie actor who starred in the adventure picture “Eskimo,” and for the past several years an assistant cameraman at 20th Century-Fox, working with Joseph LaShelle, ASC, died of a heart ailment in Hollywood last month.

FRANK PLANER, ASC, has returned to Hollywood following completion of his assignment as director of photography on Paramount’s “Roman Holiday,” filmed in Rome, Italy.

ALFRED GILKS, ASC, who recently completed filming “See How They Run” at MGM, is latest director of photography to be lured into the TV film industry. Gilks has signed to photograph the new “Joan Davis Show” for TV.

ROBERT PLANCK, ASC, will direct the photography of “Remains To Be Seen” at Metro-Goldwyn-Mayer.

ONCE-IN-A-LIFETIME THRILL (Continued from page 441)

schedule which was set up on a businesslike basis. A certain amount of determination is necessary, of course, but if one gets into a frame of mind in which the filming job is considered to be important, then it will get done.

What we all need then—and all we need—is the determination to sidetrack the things we would like to film and can’t, and get busy on the picture we can start today.

TWO NEW 16mm FILMS (Continued from Page 451)

hensive brochures on DuPont motion picture films. Folder No. A-3905 describes the attributes of film emulsions 930 and 931, together with, filter factors, processing data and recommended formulas. The second brochure, No. A-3329, contains similar information relative to all other DuPont films. Both brochures are available without cost by writing to the Photo Products Division of DuPont at Wilmington, Delaware, or to its branch in Hollywood, Calif.

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Film coating, for example, lubrication, and inspection—all require precise knowledge, expert handling. And in cleaning, splicing, and winding, the film must be held “just so” in hands wearing the right type of glove; here, the slightest scratch means trouble.

On subjects such as these—ranging from choice of film to projection and film storage—representatives of the Eastman Technical Service for Motion Picture Film are trained to advise and work with the industry.

To maintain this service, the Eastman Kodak Company has branches at strategic centers... invites inquiry on all phases of film use from all members of the industry. Address: Motion Picture Film Department, Eastman Kodak Company, Rochester 4, N. Y. East Coast Division, 342 Madison Avenue, New York 17, N. Y. Midwest Division, 137 North Wabash Avenue, Chicago 2, Illinois. West Coast Division, 6706 Santa Monica Blvd., Hollywood 38, California.
Now you can make low-cost sound movies

Now Bell & Howell brings the making of sound movies within your reach. Here is the new 16mm Filmosound 202 — not just a sound movie projector — not just a magnetic sound recorder — but a combination of both for making and showing sound movies. You need no expert knowledge, no costly professional equipment.

With the Filmosound 202, narration and sound effects to accompany the film can be recorded just the way you want them . . . while all details are fresh in your mind. Changes in the sound can be made when and as often as you want them. Only with magnetic sound movies is this possible at but the cost of the film and SOUNDRIP.

Now you can add sound to old silent films . . . new sound to a film with an obsolete sound track. Use coupon for full details on magnetic sound movies and the new Filmosound 202. Or see your Bell & Howell dealer today!

Record voice and sound effects, and mix voice with musical background, as picture is projected. All recording errors can be easily and quickly corrected. Magnetic recording will last for life of the film, yet can be changed instantly.

You’re ready to project movies with sound immediately after you record. Later, to change the sound, erase and record again in one simple step. Remember, your Filmosound 202 will project any 16mm film, silent or sound.

You buy for life when you buy Bell & Howell
In This Issue:

- Cinerama—What It Is And How It Works
- Set Lighting For Best TV Film Results
- Beating The Variable Frame-line Bugaboo
Another popular Western on Du Pont "Superior" 2

"High Noon"—the superb Stanley Kramer production for United Artists starring Gary Cooper—is another of the year's outstanding pictures made on Du Pont Motion Picture Film.

On the set are Mr. Cooper, Director Fred Zinneman (seated in front of tripod), and the camera crew. The skillful lighting techniques used by Director of Cinematography Floyd Crosby, A.S.C. (behind lens hood), helped make this drama a smashing success.

For any motion picture or television film requirement... whether you need a negative taking or positive stock, duplicating film, high-fidelity sound recording or special-purpose film... there's a dependable Du Pont product to do the job. Indoors or outdoors, with high- or low-key lighting, under the best or the most trying conditions, these films give you sharp, brilliant screen or kinescope pictures... top-quality sound recording. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware.
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TRUE PROFESSIONAL. 2709-Special. 16mm adaptation of the 35mm camera long popular with Hollywood film studios. Meets the needs of the television field. Four-lens turret accommodates all TTH Speed Panchrotal lenses. Famous B&H fixed-pilot-pin film movement. 170° adjustment shutter with automatic or manual dissolve. 200-, 400-, and 1000-foot B&H 35mm magazines may be adapted. 35mm version also available, Model 2709-D.

PERFECT PERFORMER. 16mm 70-H camera. Seven film speeds, governor controlled—three-lens turret with positive-type viewfinder system—shutter stabilizer—hand crank, rewind knob—adapted for external magazine and electric motor.

FAST, ACCURATE SPlicer. Automatic Film Splicing Machine. Built to very close tolerances to give quick, clean, accurate splices, strong as the film itself! Speedy operation means economy and efficiency. Splices negative or positive 8mm, 16mm and 35mm film.

RIGHT FOR TELEVISION USE. 300-watt pre-aligned lamp in new design, high intensity lamphouse provides perfect light for printing any type of 16mm film, fine grain, black-and-white or color. Three-way aperture for continuous printing—sound and picture separately or both together. Minimum speed, 60 feet per minute. Other models available.

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FOR more than 40 years the Bell & Howell name has stood for the finest among Hollywood experts. And today—for television and every other professional use—it is still the first choice of the men who know!

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What’s New in Equipment, Accessories, Service

ON THE COVER

The photographic crew that shoots the weekly Burns and Allen television film, as seen by the players on the set. Director of Photography is Philip Tannura, ASC, (in checkered shirt, foreground), who photographs the show with two Mitchell 35mm cameras mounted on “crab” dollies. To his right is producer-director Ralph Levy. Using overhead lighting, thus freeing stage floor of cables, Tannura smooths out shadows in lower areas of sets through use of twin photospot lamps which serve as fill lights, shown here clamped to base of both camera dollies.—Photo by Bud Graybill.
The 16mm Professional has the same proven Mitchell 35mm features—to bring 35mm quality to 16mm screens. Equipped with 16mm Mitchell blimp, this camera is a favorite of leading commercial producers for sound photography.

For over 25 years, Mitchell Cameras have set professional photographic standards for the Motion Picture Industry. These flawlessly designed, ruggedly constructed cameras have proven themselves in smooth, positive operation under the most exacting conditions. Today, as yesterday, the World's greatest films depend upon Mitchell—professional equipment for truly professional results.

The Mitchell 35mm Camera—standard equipment of major studios—is internationally known for dependability and performance. For superb photography, Mitchell 35’s are available in BNC (blimp unnecessary); NC and Hi-Speed models to meet every requirement.

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HERBERT BARRETT (r) succeeds Peter Mole, ASC, as president of SMPTE. Barrett is Gen. Precision Equip. Co. v.p.; Mole heads Mole-Richardson Co.

TOM TUTWILER, ASC, one of the industry's ace aerial cinematographers, while shooting air scenes for a sequence in a film for the "Terry and the Pirates" TV series, barely escaped what might have been a serious mid-air crash last month.

Shooting from a camera plane piloted by Paul Mantz, second plane which was being photographed suddenly swooped downward and beneath the camera plane, reportedly sideswiping the latter. Both planes limped back to their respective airfields despite moderate damage. Although seriously shaken up, none of the planes' occupants was injured.

COL. NATHAN LEVINSON, head of Warner Brothers' sound department, who died last month at the age of 64, was a member of the editorial board of the American Cinematographer magazine. With the advent of radio, he became internationally famous for his work in the field of sound. Later, with the development of the first sound films, Col. Levinson contributed several articles on the subject which were published in American Cinematographer.

OCTOBER SIXTH marked the 25th anniversary of the first "talking" picture produced in Hollywood—"The Jazz Singer," starring Al Jolson, and produced by Warner Brothers.

Two ASC members figured importantly in this production: Hal Mohr, who directed the photography, and Warren Lynch, who shot stills on the production.

Both men are still active cinematographers—Mohr, having recently completed the photography of "Member of the Wedding" at Columbia, and Lynch the photography of "Retreat Hell!" released by Warner Brothers.

JOHN R. BISHOP, who recently succeede-(Continued on Page 468)
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A product of the manufacturers of KINEVOX PORTABLE SYNCHRONOUS MAGNETIC RECORDERS and associated equipment.
ed Ray Wilkinson as head of the camera department at Paramount Studios, has been elected to Associate membership in the American Society of Cinematographers. Prior to Wilkinson's resignation, Bishop had been Wilkinson's assistant for many years.

ED OLSEN, cinematographer for Dudley Pictures Corp., has returned to Hollywood after completing a five-month's tour of the U.S., filming sports events for Dudley's series of theatrical and television films. Olsen uses a Cine Special camera, shoots 16mm Commercial Kodachrome, which is subsequently "blown up" to 35mm in the Trucolor.

JOSEPH RUTTENBERG, ASC, last month completed the photography of MGM's "Julius Caesar" in Technicolor, said to be the only color production on record shot almost entirely by aid of overhead illumination alone.

ACCORDING TO one Hollywood film laboratory head, magnetic sound—now in general use for recording in all major Hollywood studios—has put a dent in film lab business to the extent of 30%.

BENJAMIN BERG, ASC, Eclair camera representative in Hollywood, is readying an article for American Cinematographer describing the unique built-in exposure meter which is a feature of the new Eclair cameras.

OCTOBER 27TH meeting of American Society of Cinematographers featured an illustrated talk on color in photography by Ralph M. Evans, author of "An Introduction To Color." Mr. Evans is head of the Color Control Department at Eastman Kodak Company, Rochester, New York.

Among the other honored guests who attended the meeting were Toshio Ubufuka and N. Takamura, of the Japanese motion picture industry in Tokyo, Mr. Harry Minura, Japanese cinematographer, British cinematographer Lionel Wheeler, of London, and Frank-Zucker, ASC, head of Camera Equipment Co.

AMONG ASC MEMBERS who attended the 72nd semi-annual convention of the SMPTE in Washington, D.C. last month were Peter Mole, who stepped down from the SMPTE presidency, handing the gavel to his successor, Herbert Barnett; John Boyle, Sidney Solow, Karl Freund, and Charles Handley.
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IT GROWS ON TREES — Photographed in black-and-white by Maury Gertsman, ASC, for Universal-International Pictures. Produced by Leonard Goldstein and directed by Arthur Lubin.

Troubles start for Polly Baxter (Irene Dunn) when she discovers two trees in her backyard growing $5 and $10 bills. Her husband (Dean Jagger) refuses to let her use the money, even though the middle-class family is harried by budget difficulties. From thereon to the final fadeout it's a hilarious picture, made pictorially interesting by Maury Gertsman's skillful execution of crane and dolly shot technique. The crane maneuvers in the opening sequence are exceptionally commendable—an excellent study for students of cinematography.

Thereafter, similar camera treatment is smooth and precise and is easily the standout photographic highlight of the picture. Commendable, too, is Gertsman's polished lighting of the interiors, which make up about 50% of the picture.

The daytime exteriors are marked by that smooth lighting which Gertsman has come to achieve in his pictures through skillful use of scrims and diffusers, and that "just right" balance of fill light that invariably gives his scenes a genuine natural aspect.


This is Ted McCord's first Warner-Color assignment, and it proves that McCord can get as much out of this new color system as any other Warner Brothers cinematographer who has used it to date. On the other hand, it may also prove that Warner Brothers has perfected Warner-Color to where it is now as simple to use as black-and-white film—which has been their aim.

Story is laid at time of demise of prohibition and has to do with Broderick Crawford, a racketeer of that era and his wife, Claire Trevor, and their experiences encountered in going "legit," as Crawford puts it.

Most of the scenes are staged indoors, even many of the "exteriors" and this gave McCord the advantage of controlled lighting—which is advantageous to any color production.

Also evident is fact Warners still are having a little trouble with their make-up for men for this color system, but no doubt the solution is just a matter of time, judging from the way they have overcome other obstacles.

All in all it's another interesting study of Warner-Color, a process which the industry has been watching with keen interest.

APRIL IN PARIS — Photographed in Technicolor by Wilfred M. Cline, ASC, for Warner Brothers. Produced by William Jacobs and directed by David Butler.

Because most Technicolor musicals generally follow the same pat formula for photography, Wilfred Cline's work in this production will be viewed with considerable interest for the reason that his technique, particularly his Technicolor lighting, produces a markedly different result. Noticeable is the way he tones down lighting of the upper regions of sets and often on the players themselves. Then there is the interesting treatment of the shots of the chorus on stage. Normally, the lighting would come predominantly from direction of the footlights—often with unsatisfactory results. Cline has ignored the rule that says you must light it "such and such a way" and quite obviously has struck out along bold new paths, with interesting pictorial results.

Story's about singer Doris Day who gets invitation to European jaunt in error, and who is ultimately straightened out by government hireling Ray Bolger.


Jack Cardiff, or perhaps it was the art director, evidently decided on a pattern of soft, pastel coloring for the photography of this picture. At any rate it has been achieved with some sacrifice of quality in the photography, which is spotty—being marked by washed out faces in many scenes. This of course, could also be due to the processing by Technicolor's London Laboratory, which doesn't always seem to achieve the same crisp quality and color fidelity as does Technicolor's labs in this country.

Otherwise, the techniques of camera handling and composition contribute substantially to keeping alive a somewhat loose story about William Friese- (Continued on Page 506)
ARRIFLEX 35
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FAMOUS ARRIFLEX FEATURES:
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"The Arriflex 35 is easier and faster to handle with its reflex focusing, direct viewing, simple threading, and setting up in general. Its lightweight construction and compactness are blessings to the cameramen who have heretofore been struggling with more cumbersome equipment. The Arriflex has proved itself rugged and tough enough for any conditions which may arise on location.

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Just to remind readers that American Cinematographer celebrates its 32nd anniversary with this issue, AC undergoes a change in cover format this month. Dominant is the internationally recognized symbol of the screen which henceforth will frame the cover illustration each month.

Thirty-two years—384 consecutive issues with never a miss—is a proud record in this field, one unequaled by any other industry publication. This record would not have been possible without the cooperation and enthusiastic support of AC's many advertisers and thousands of subscribers. The avid devotion of both is borne out by the record of many advertisers who have appeared regularly in the magazine since its inception, and of the many readers who long have been devoted subscribers.

Today, American Cinematographer is read the world over wherever motion pictures are made. Each issue not only goes into the homes and offices of hundreds of directors of photography, camera department heads, film producers, laboratories, etc., in Hollywood, but reaches the cameramen, producers and processors of motion pictures in the vast television, industrial film and 16mm film fields—not to mention its wide following among the world's advanced amateur movie makers.

As the recognized international "Magazine of Motion Picture Photography," it has, more than any other industry medium, welded motion picture makers in all parts of the world into one common fraternity, which monthly looks to American Cinematographer for authentic news of latest technical developments in the production of 35mm and 16mm motion pictures.

One of the more flagrant violations of screen credit ethics, which seems never to receive serious challenge, is the studios' repeated practice of slighting directors of photography who contribute a substantial share of the photography of a feature production as 2nd unit men or location and background plate photographers.

We see another instance of this with the release of 20th Century-Fox's "Snows of Kilimanjaro." Here is one of the standout color productions of the year in which the photography is superb from start to finish. Leon Shamroy, ASC, receives the sole screen credit for directing the photography; yet we feel that the contribution which Charles G. Clarke, ASC, made to this picture in the way of foreign location shots of Africa, Paris and the Riviera is too important and extensive to go uncredited. Without this footage, there certainly could not have been a production—nothing to which to tie Shamroy's exquisite studio photography. Both men have turned in superlative color compositions—Clarke the foreign location exteriors, Shamroy the beautiful portrayal of the principal players and the supporting continuity shots.

Despite the studio's oversight in not crediting Clarke for his photography, it is notable that it saw fit to give dual credits for other technical contributions to the picture, namely that of art direction, set decoration and sound. In addition, there is a credit for the special photographic effects of Ray Kellogg.

Already, some in the industry who have a voice in the annual awards voting have stated they could not honestly nominate the picture for a photographic award in view of its present incomplete credit for camera work; they also point out that the existing situation could very well prove a deterrent to the nomination of the picture for photographic achievement.

It is hoped that the matter will receive the attention of the Academy in due time, and that the committee on nominations will endeavor to have the producers of "Snows" amend the photographic credit well in advance of nominations time.

An interesting folder came in the mail recently from Princeton Film Center, Incorporated, Princeton, New Jersey, describing a number of 16 millimeter color and sound films available rental-free to groups. It is interesting for two reasons: 1) the films are ideal material for cine club programs; and 2), the titles suggest filming ideas for amateurs in search of good movie making material, viz: "Canaries Are Fun," about raising canaries in the home; "On The Track," showing the vital role of our railroads; "Whistle In The Night," about romance of the railroads. Eight other subjects listed are equally inspiring for the imaginative amateur movie maker. A screening of the films undoubtedly will give cine amateurs more concrete filming suggestions.

—A.E.G.
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Ken Richter at work in Cinecitta Studios, Rome, on Roman Banquet scene.

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**maurer** means finer motion pictures!
VISITORS as well as ASC members were interested listeners during demonstration and discussion of the Vistascope process, conducted by Dr. Charles R. Daily, ASC, of Paramount Studios.

INDIA cinematographer B. P. Divecha (left foreground) and sound technician Minoo Katrak listen to Ernest Laszlo, ASC, discuss fine points of the Mitchell 35mm studio camera, which was demonstrated in conjunction with unique “crab” dolly designed by Steve Krilanovich (far left).

SIDNEY SOLOW, ASC, (left) demonstrated new automatic film splicer to visitors. Watching demonstration (left to right) are: D. Subramanyam, Minoo Katrak, Fred Jackman, Jr., ASC, and Peverell Marley, ASC.

CHARLES G. CLARKE, president of American Society of Cinematographers, welcomes technical men from India's motion picture industry to ASC's November meeting. From left to right: Minoo Katrak, B. P. Divecha, Clarke, M. R. Archarekar, D. Subramanyam, and B. N. Sircar.

India Film Technicians Feted By Cinematographers

Technical talks and equipment demonstrations augment dinner given by American Society of Cinematographers for visiting technicians of India's motion picture industry.

By ALVIN D. ROE

The American Society of Cinematographers, whose eminent members photograph most of the theatre and television motion pictures made in Hollywood, were hosts to the technical contingent of the 14-member delegation of distinguished artists, producers and technicians from the motion picture industry of India during their visit to Hollywood last month.

Named by the India motion picture industry to represent the film business of their country for a 4-week tour of the United States were five technical men, in addition to four of the country's most beautiful and talented women stars and three leading male stars. The five men hosted by the ASC were: B. P. Divecha, chief cameraman for the Kardar Studios in Bombay; D. Subramanyam, of Madras, producer, director and recently president of the South Indian Film Chamber of Commerce; M. R. Archarekar, motion picture art director from Bombay; Minoo Katrak, Bombay, sound recording engineer; and B. N. Sircar, Indian motion picture producer and exhibitor.

Following a dinner at the Society's clubhouse in Hollywood, ASC president Charles G. Clarke formally introduced the honored Indian guests, each of whom addressed the gathering briefly. For the technicians, it was the culmination of a long anticipated opportunity to meet in person the many cameramen and cinematographic technicians whom they had come to know through American Cinematographer magazine.

Each of the visitors told something of his experiences in making motion

(Continued on Page 503)
THE STEEL BANK VAULT from which Joseph Cotten steals a million dollars prior to fleeing to Brazil. Colortrans, Juniors and Photofloods operating on house current, furnished the illumination used by Ernest Laszlo in photographing this dramatic scene.

**Documentary photography lends realism and dramatic punch to THE STEEL TRAP... filmed almost entirely in actual locales.**

**By ARTHUR ROWAN**

Besides being one of the season's better motion pictures, "The Steel Trap" also is noted for the fact almost 98 percent of it was filmed away from the studio, in actual locales. It is embellished with slick documentary treatment in the photography by cinematographer Ernest Laszlo, ASC, a quality which enhances the story appreciably, imparting as it does the illusion one is actually witnessing the happenings surrounding the absconding by a trusted bank executive of a million dollars—the crux of the story.

Joseph Cotten is the executive who suddenly is tempted to steal the bank's funds and flee with his wife and child to the safety of extradition-proof Brazil. Encountering everything short of actual apprehension in his two-day week-end flight attempt, he changes his mind when his wife discovers his plot, and manages to return the money to the bank just moments before opening time the following Monday morning.

This Thor Production, under the guidance of producer Bert Friedlob and given the skillful direction of Andrew Stone, utilizes such actual locales as city streets, interior of banks and office buildings, an airport, and hotel rooms. Only one studio set was used—that of the hotel bedroom where Cotten's wife, Theresa Wright, discovers he's a thief and leaves him. Shooting this sequence required but one day, and represents the only studio filming in the entire picture.

The actual locations used were in Los Angeles, and in New Orleans where Cotten and Miss Wright try vainly to make plane connections for Brazil. The Los Angeles locations included several downtown city streets; marriage license bureau in the City Hall; interior of the International Airport; TWA's downtown office; Alexandria Hotel; Markham Building; a barber shop; interior of a TWA plane, and a dwelling in San Fernando Valley. In New Orleans, the airport, TWA office, Antoine's famous restaurant, and several city streets served for locations.

Photographing a picture in such off the lot sets as enumerated here might be considered an easier chore than shooting in the studio. Actually, it is not. The risk for the cameraman is greater because, unlike in the studio where lighting can be controlled and there is unlimited assistance in the way of helpers, equipment, etc., he faces in locales outside the studio a multitude of unlooked for factors such as changing sunlight on exteriors, inadequate lighting equipment for his interiors, lack of camera movement which wild walls ordinarily provide in the studio, and the need to balance interior lighting with daylight coming through windows and doors. Actually, it would seem that shooting under such conditions would require more equipment and a greater crew than when shooting in the studio on the sound stage. But in this instance, Ernest Laszlo worked with perhaps the smallest crew ever to photograph a feature production on location. Transportation of equipment and crew to the various location sites was either by a single truck (in Los Angeles) or by plane, as when traveling to New Orleans. Thus, limited space and the shortage of accommodations for camera, lighting and grip equipment made it necessary for Laszlo to operate with a crew consisting of only two grips, three electricians, plus regular camera crew.

The lighting equipment consisted of Colortrans, Juniors and Baby Juniors. Space and personnel limitations also ruled out the use of a generator. Power for the lights, camera and sound equipment was invariably supplied by domestic power lines; and when this wasn't feasible, as when shooting the taxi interiors, interior of plane, and several exteriors, power was supplied by a number of storage batteries sufficient to provide 110-volt current.

(Continued on Page 496)
THE CONVENIENCE of "wild walls" was sorely missed on more than one occasion by Lasslo and his camera crew when shooting interiors such as this in TWA's ticket office in downtown Los Angeles.

TWO TAXIS were tied together to enable shooting the running taxi shots in "The Steel Trap." Players, camera and cameramen are in the second taxi; storage batteries and sound recording equipment in the first.

IN SHOOTING interiors in the TWA plane, Lasslo employed Colortrans and a Junior for key light and got exceptional results. For day shots, tinted plexiglass covered the windows to permit balancing the light.

DESPITE CAVERNOUS interior of the bank, Lasslo accomplished excellent photographic results with limited lighting equipment and use of the banks' houselight power lines. Most shots, of course, were at close range.

JUST ONE of many interiors that required use of tinted plexiglass on windows and doors to permit balancing the interior illumination with the daylight coming through the openings—the TWA office in New Orleans.

LARGE WINDOWS in some of the interiors did not deter cinematographer Lasslo in aiming for realistic shots such as this of couple in Western Union office in New Orleans. Filtering the window light made the shot possible.
And Now...CINERAMA

Just as sound changed the course of motion pictures 25 years ago, Cinerama promises to broaden the scope of feature films. What it is and how it works is described here by one who witnessed its New York premiere.

By JOHN W. BOYLE, ASC

THE LONG HERALDED Cinerama made good at its first public presentation last month at the Broadway Theatre in New York City. The successful première showing marked another of those periodical innovations which have punctuated the history of the motion picture industry over the years, and like the others before it, is destined to have a major effect on its future.

As was everyone else in the motion picture industry who attended the première of Cinerama, I was tremendously impressed with its possibilities. Cinerama is not a stereo film system, nor does its inventor call it a three-dimension system. It is, instead, a means of bringing vastness to the screen without distortion or loss of definition and to create a sense of space through a larger, new type of screen, which fills the prosenium arch of the theatre. Sir Alexander Korda has described it most aptly as "...one of the most important inventions in the history of films. It gives the complete illusion of three dimension effects in color and sound without the use of glasses."

Lowell Thomas, one of the important men associated with the new process describes Cinerama as "an adventure with a new medium which I believe will revolutionize the technique of motion picture story telling. From the beginning, pictures have been restricted by space. A painting is hemmed in by its frame, so to speak. Conventional motion pictures are confined to a narrow screen. You see only what is straight ahead, while normal vision includes what you see out of the corners of the eyes. Someone has said that movies are like looking through a keyhole. Cinerama breaks out of the sides of the ordinary screen, and presents nearly the scope of normal vision and hearing."

Cinerama is the result of a brilliant idea, 15 years of untiring research and the expenditure of millions of dollars. Its inventor, Fred Waller, developed the now famous gunnery trainer used by the armed forces in World War II. It saved an estimated 350,000 casualties. In it, four trainees sat in a large room in front of a huge spherical screen on which five synchronized projectors threw movies of enemy planes that dove on the novice gunners every which way.
In a realistic three-dimension atmosphere, each gunner fired an electronic machine gun at his adversaries. The gun recorded the hits, instead of firing bullets. This Waller trainer was the final step along the road to Cinerama.

The illusion of reality created by Cinerama is closely linked to the functions of the retina of the human eye and the drum of the human ear. The film process attains the effects of real life by surrounding the viewer completely with action and sound in an environment. The picture Cinerama produces is almost a complete half-circle, 146 degrees wide and 55 degrees high—pretty close to two human eyes which cover about 180 degrees and 90 degrees. Naturally, no lens known can cover such a field without excessive distortion. Hence, the Cinerama camera has three 27mm lenses—no bigger than the lens of your own eye—set at 48 degrees angle. Each records a third of the picture's total width as seen on the screen, exposing its own strip of 35mm film. The lenses are arranged on a special mount in the camera like a miniature three-section picture frame. The one in the center points straight ahead. Those on each side point in, so that the left lens records the right side of the picture and the one on the right takes the left side. A single, rotating shutter, that whirls in front of the lenses at the point where their lines of view cross, makes foolproof simultaneous exposures on each of the films. Diaphragm controls adjust settings on all three lenses simultaneously.

Individual Cinerama film frames are one-half again standard height—in other words, 6 perforations high instead of the standard four—and since three film strips are used, this means that the total amount of film used is 4½ times as much as normally used in filming a standard 35mm feature production. To merge the three film strips into a single picture on the screen, measuring 5½ feet in width and 2½ feet high, the process is reversed. Three 35mm projectors in separate booths throw the images from each film out onto the screen. The projector on the right fills the left third of the screen; the one on the left, the right third; and the one in the center fills the center portion. Since the screen is curved, one would normally expect distortion and fuzziness to result; but this does not happen. Great depth of focus of the projector lenses keep the picture sharp. Distortion, caused by reflected light bouncing off the screen, is licked by the screen's special design which is made up of 1100 overlapping vertical strips of perforated tape set at angles like the slats of a vertical Venetian blind, instead of the one-piece screen used in conventional motion pictures. Reflected light bounces off a strip and escapes behind the strip directly in front of it.

One of the problems that had to be overcome in the development of Cinerama was how to put the images of three separate film strips on the screen side by side without lines of demarcation showing.

(Continued on Page 498)
Why I Used The Garutso Lens In Filming "The Four Poster"

Shooting sustained action in lengthy takes required a lens able to keep the major portion of the set in sharp focus at all times without need for excessive illumination.

By HAL MOHR, ASC

HAL MOHR, who has made numerous experiments with Garutso balanced lenses, says added depth of focus achieved without increasing lighting can effect economies in production by reducing number of camera setups required. Above graphs show comparative increase in depth of field achieved by Garutso lens reconstruction method, applied to 5" Ektar still camera lens, according to Robert B. King, Prof. of Physics, Calif. Institute of Technology. Left chart shows correction at 0°, right chart at 18°. The standard lens graph line is indicated by X, the corrected lens by O.

(Continued on Page 500)
EASTMAN
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FILMS

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Variable Shutter For The Bolex H-16

Makes possible smooth fades and lap-dissolves, fast-action filming, and gives new scope to a popular camera.

By FREDERICK FOSTER

One of the important features which every 16mm cinefilmer wants in his camera when he undertakes professional cinematography is a variable shutter. At present, there are but two 16mm cameras in the semi-professional class which have this feature—the Eastman Cine Kodak Special, and the European-made Pathè Model E “Super 16.” However, owners of the Bolex H-16 now may have this feature added to their cameras, thanks to the ingenuity of Tullio Pellegrini, of San Francisco, California.

Pellegrini, an avid Bolex owner and enthusiast, considers the H-16 one of the best 16mm cameras available. Thus, when he reached the stage in his filming activities where he required the added advantages which a variable shutter could give, instead of trading his camera for one having this feature, he proceeded to engineer and install one in his Bolex. So successful was this camera modification that other Bolex owners of his acquaintance persuaded him to install variable shutters in their cameras. Pellegrini soon found himself in a profitable sideline business which later developed into a full-time money-maker. Today, thanks to aggressive advertising, Pellegrini is installing variable shutters in Bolex cameras sent him by owners from all over the globe. “Adding a variable shutter to the Bolex H-16,” says Pellegrini, “makes Bolex the ‘Cadillac’ of cameras in the medium-price field.”

Here are some of the advantages which his variable shutter gives to Bolex H-16 camera owners: the ability to make fades in and fadeouts and lap-dissolves; to achieve smooth changes of exposure when panning from light to dark areas in one take; to get sharper action pictures with faster shutter speeds; and eliminating the need for neutral density filters to cut down the light when using fast film outdoors.

All professional 35mm motion picture cameras, such as those used in the studios and for newscast and some television film production have variable shutters. The general mechanical structure of a typical motion picture camera shutter is a disc—that is, it is a portion of a disc—which rotates behind the lens and before the film in the camera. It is synchronized with the camera movement so that it is closed during the interval that the film is being moved forward one frame and made ready for the next exposure. The next exposure takes place when the shutter continues to rotate, so that its open portion exposes light to the film as it comes through the lens, and for the interval permitted by the size of the “open portion” of the shutter. Normally, most cine cameras have one shutter speed because the shutter is “fixed”—that is, it is not variable; the open segment is always the same so that the interval of exposure is 1/30, 1/27, 1/40, etc., of a second, depending upon the make and model of the camera. Why there should be a difference of shutter speed between different cameras is probably due to the difference in the camera mechanisms and also to the fact the industry never settled upon a standard for all cine cameras.

Variable shutters are essentially of the same type construction except that two disc sections are employed, one stationary and one rotatable on the shutter shaft, so that various degrees of shutter opening can be produced simply by manual adjustment of a lever which extends outside the camera case, and which moves one shutter segment to change the width of the opening. What results is a change in the amount of light reaching the film, or—when the shutter opening is open or closed progressively as the camera exposes the film, a fade is made. By making a fade-out, then winding back the film (with lens capped) the exact number of frames occupied by the fadeout, and subsequently (with lens cap removed) starting the camera and gradually opening the shutter, a lap-dissolve is produced.

In making extensive panning shots where the camera lens moves progressively from a light to a dark area in a scene, unless it is possible to open up the shutter as the dark area is entered, the latter will be underexposed and some if not all the important detail will be lost. In such instances, the professional cameraman progressively opens his shutter to admit more light per exposure as the dark area is reached. While the shutter speed has been changed, correct exposure has been attained throughout the entire scene without otherwise affecting the pictorial result.

With a variable shutter on a motion picture camera, the photographer has all the flexibility afforded by the still camera with a range of shutter openings. Just as the still photographer will stop up his shutter speed to 1/200 or 1/500 second and open up his lens for a fast action shot, the cine photographer having a variable shutter on his camera may do the same. Races and other sports events, flights of birds, and other fast action studies which are thus rendered in sharp detail, become pictorial delights.

Pellegrini’s variable shutter installation involves a total of thirty-five parts. Five of these are gears used to form the differential block which, with the aid (Continued on Page 504)
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Some of the equipment vital to the photography of the Burns and Allen TV show may be seen in this picture of Gracie Allen discussing a scene with producer-director Ralph Levy (seated) and cinematographer Philip Tannura, ASC. In background are two of the important set lighting units used—the cone-light (right) and the strip-light, which are used with diffusers. Mounted on floor of the camera dollies are two photospot lamps which supply fill light.

General view of the multiple sets used in staging action for the weekly Burns and Allen TV shows. Note cone-lights suspended from ceiling. These are augmented by other lighting units—all suspended from overhead, thus leaving stage clear of cables for free movement of dolly-mounted cameras.

Carefully Balanced Lighting Vital To Best TV Film Results

Optical and mechanical losses introduced in present TV systems, which affect quality of the finally transmitted film image, can be offset by more care in set illumination.

By PHILIP TANNURA, ASC
Director of Photography, "The Burns and Allen Show"

Having photographed more than a hundred films for television, I feel that I can state with some authority that there is a very real difference between the lighting required for television films and that demanded for theatrical films. This matter of lighting for TV films is an oft-disputed question; but the fact remains that today we still see both good and bad photography on television screens.

The cinematographer who accepts an assignment to photograph a dramatic film for television, should first understand some of the limitations that the electronics of television place upon motion pictures made for the medium. Having done so, he will then set about adjusting his lighting technique to fit the new medium in which he has undertaken to work.

The television film chain consists primarily of a projector and a pickup tube, and associated monitoring equipment. These units introduce optical and mechanical losses into the quality of the finally transmitted film image. The most important element in this chain from the standpoint of quality loss is undoubtedly the pickup tube and its operation. This tube—the iconoscope—which is an energy storage device and therefore subject to many errors common to all such devices, has been subject to much discussion and much improvement during the past two or three years. It has been felt by the most competent engineers that all is not yet fully understood about the use of the iconoscope tube, and new methods of using it are being developed even now.

As an example of one of the difficulties inherent in this type of image pickup device on which we presently rely to transmit film images to home TV screens, the spectral sensitivity of the iconoscope tube extends well into the infrared region of the spectrum. The large amount of infrared radiation present in the ordinary incandescent lamp, which is the light source employed in TV film projectors, falls on the sensitive surface of the iconoscope tube...
and creates an unwanted invisible image which in turn gives spurious electronic signals to the monitor circuit.

Since the electrons liberated from the sensitive phosphors surface in the iconoscope by the infrared radiation passing through the film and falling on this sensitive surface are of low energy content, they tend to form a much less sharp and less well defined image than would be the case if the iconoscope surface were sensitive to visible radiation alone.

Some television stations have sought to counteract this by placing infrared absorbing filters in the projector light beam, and many reports marked improvement in the quality of film transmission as a result.

Competent authorities feel that when other methods of projecting TV films are developed and employed by the television industry, it will be possible to obtain at least as good quality from 35mm films as is obtained from direct live pickup. In fact, the technicians go so far as to say that the film pickup program should then be better in quality than live shows, providing the latter are still handled in the same manner as at present.

Much development work is being done at the present time on continuous film projectors, which will be used to project the TV film image into a pickup device known as a flying spot scanner. The combination of the continuous projector and the flying spot scanner, which is not an energy storage device and is therefore not fraught with all the difficulties of such devices, will do much to relieve this problem.

With these facts before us, it is obvious that too often the TV film cameraman is fighting the iconoscope tube. Instead of changing the lighting to fit the tube presently in use in most stations, we find many cameramen following the old studio technique of providing heavy shadows with contrasting large white areas. In photographing the Burns and Allen Show, we aim to make it look like a live show as much as possible. I'm frequently tempted to fall back on studio technique and put heavy shadows into different parts of the set, but I know what will happen.

(Continued on Page 501)
Is Your Frame Line Showing?

A faulty camera aperture plate can cause plenty trouble when screening movies made with more than one cine camera.

By LEO J. HEFFERNAN

Photos by the Author

A serious problem which amateurs often encounter, when undertaking a group film production in which two or more cameras are used, is the constantly changing frame line that appears on the screen as a result of the intercutting of footage contributed by the different cameras.

Most of us at one time or another have witnessed the screening of pictures where the projectionist is kept busy re-framing the film each time it appears out of line—with consequent annoyance to the audience.

Why different cameras should produce pictures with different frame lines is a matter that has puzzled cine cameraists for years. Theoretically, they should all be the same—at least camera manufacturers aim to follow certain standards that have been established by the industry and which specify that the frame lines produced by 16mm cameras should intersect the sprocket holes exactly in the center—as shown in the middle film clip in Fig. 1 and again in the projected result, shown in Fig. 2.

A cine camera which produces pictures with the frame line above or below this position, as illustrated in Figs. 1, 3, and 4, do so for two reasons: 1) the aperture plate in the camera was not correctly set when the camera was assembled at the factory, or 2) it has slipped out of position during use. In either case, it requires the skilled attention of the factory or of an authorized factory service man. Skilled camera technicians in various motion picture centers, such as Hollywood, Chicago and New York also can render dependable service. The camera owner should never attempt the adjustment himself.

If, after acquiring a new or second-hand cine camera, the reader wishes to check it for aperture accuracy before starting to shoot, he may do so quite easily. Obtain a short length of processed film which shows the frame lines clearly and in correct position and thread it in the camera. Remove the lens, and run the camera down until the shutter is wide open. With the pull-down claw at the very bottom of its downward stroke, compare the frame lines on the test film with the top and bottom margins of the camera aperture plate. If no frame line shows, the aperture is correctly aligned. If a frame line shows in the aperture, the plate needs to be re-set to its correct position. Eastman Kodak Company, incidentally, offers a special test film for this purpose, which may be obtained on special order from Kodak dealers or direct from Eastman Kodak Company in Rochester, New York.

If you are a “two camera” cine amateur, you probably need to give some attention to this frame line problem, because if your second camera produces a different frame line result than that of your first, your movies made with the two cameras, when spliced together, will give you a bad time during projection. Certainly there is nothing more annoying than having to sit right

(Continued on Page 495)
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Amateur's 16mm Film Promotes Annual Community Chest Drive

Chance to aid fund-raising gave this filmer opportunity to undertake his first 16mm sound production. Resourcefulness and careful planning made it a success.

By FRED D. PFENING, JR.

LIKE MANY OTHER AMATEUR MOVIE FANS who have long since tired of filming commonplace family subjects, I had given a lot of thought to shooting a "big" 16mm production. Perhaps that is the reason I said "yes" without a second thought, when asked if I would produce a 1½ minute sound film for the United Appeals annual Fall drive in Columbus, Ohio.

In looking back to that fateful phone call, I think it would have been well to have asked a few questions before so readily accepting. At that time I didn't know that nine release prints of the film would have to be ready for showing in six weeks. Also, I didn't know that certain sequences would have to be done in sync sound. But even after being fully briefed by the campaign committee on what they had in mind, it still seemed like an interesting challenge. It was a real opportunity to put into use all the "professional" methods I had read about in American Cinematographer. Having moved into the sound class about a year and a half earlier, I now had a moderate amount of sound-on-film recording experience.

The first step was to work out a general outline of just what we wanted to accomplish with the film. Briefly, the film was to be shown on all three Columbus television stations a number of times, and was also to be used through the local Speakers' Bureau for showing to service clubs and employee groups. We decided to follow pretty closely the established technique used in professional TV films—a minimum of long shots and lots of medium and close shots.

Working from the outline we prepared a full shooting script. The story theme called for using a typical United Appeals (Community Chest, Red Cross, Etc.) solicitor. Jim Thomas attends an (Continued on Page 492)
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“From Research to Reality.”
AMATEUR 16mm FILM
(Continued from Page 490)

United Appeals meeting because the boss requests him to be there. He doesn't want to have anything to do with the campaign, either as a donor or a solicitor. So the boss tells him to take the day off and visit some of the agencies for a first hand view. He does this and is converted. He returns and offers his services to the boss and goes to work on his fellow employees.

Gene Paul, who was cast as Jim Thomas, is an active little theater player and also is assistant factory superintendent for The Fred D. Pfeining Co. Other theater group people also were used in the cast.

An attempt was made to secure outside help in shooting some of the less important shots, but because of the close deadline, I was unable to enlist any aid other than was used in the lip-sync sound sequences. It would turn up as almost a one man job, similar to John Cowart's efforts in Atlanta last year. (It was necessary to take a two week's "vacation" to do most of the shooting.) This was not too much of a problem, in fact it may have been a lucky happening as it allowed us to move fast, and to have only one train of thought in planning the production as well as the camera angles.

The shooting script, as well as the final script, was written by William Cronin, executive director of the United Appeals of Franklin County. His assistant, John Pipic, made all location arrangements and accompanied me on location shooting.

We decided to use the negative-positive system, rather than reversal and a dupe negative. Our original thinking was to use single-system sound on the lip-sync sound portions and dupe the sound on one film and the picture on the other. Two reasons lead to the decision to use the double system. First, double system editing was involved either way, so there was no relief there; and secondly, it was felt that the overall picture quality would suffer if some dupe picture negative was intercut with original camera negative. For this reason, Eastman Background-X negative was used exclusively in the film. A local TV station which has facilities for negative-positive developing, did this work for us in record time, delivering answer prints in two or three days.

Since we had no control over when appointments could be set up at the different agencies that were to be portrayed in the film, the sequences were not shot in order. Using a slate at the beginning of each scene solved the problem of editing. Although we estimated that only 522 feet would be required for the picture, we planned on shooting a little over twice that amount. We wound up exposing nearly three times the footage needed, which proved to be of great help later in the final editing.

The basic lighting for interiors consisted of spot-type photoflood lamps. In most instances we used three or five floods from front and side, and one or two as backlights. Since most shots were held at around fifteen feet the problem of background lighting was not too great. On our first day's shooting, we learned to have plenty of fuses handy. Also, the wiring in some of the community centers and sheltered workshops, being very old, presented some lighting limitations.

Filters and reflectors were used on all outdoor shots. The exposure was held to f/5.6 during most of the indoor location shooting. A 13mm f/1.4 lens was used most of the time, with a 25mm f/2.5 lens being used for all closeups. A 50mm and a 63mm were used sparingly. Using this range of lenses, the Bolex H-16 proved a highly efficient and flexible camera because of its handy turret which allows quick change of lenses from viewing to taking position.

All of the location scenes were filmed in ten days. Since all dialog scenes centered around Jim, his boss, and fellow employees, the plant of The Fred D. Pfeining Co. was used for staging these. Here, scenes were made in the office, the drafting room, and the sheet-metal layout department. Studio type spot and flood lights were added to our photoflood lighting equipment, thanks to the additional electric power that was available.

The Auricon double-system sound recording equipment worked very smoothly. An average of three takes were necessary on each scene, and, of course, each scene involved a new camera angle. In changing camera angles, as when moving from a medium to a close shot, we made a point of always moving from a front to a side shot or vice versa. We had come to know from experience that it is difficult in editing to cut close and medium shots filmed from the same angle.

Two synchronous Auricon-Pro 16mm cameras were used for the lip-sync shooting—one as a sound recorder and the other for picture. The poor acoustics of the relatively bare factory rooms was overcome by hanging heavy blankets around the immediate area where shooting and recording was done. This combined with the use of special sound film stock, enabled us to achieve remarkable sound quality. In fact, the sound quality was so good it would not have been necessary to re-record if it
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ARRIFLEX CAMERAS

The two Auricon cameras were interlocked by means of a single switch, in order that they might both come up to speed before the clap stick was used.

During the filming of the sound sequences, I was aided by an assistant cameraman and a sound man. The Bolex was used as a second camera to record reaction shots when filming the sound sequences. We used the reaction shots to break up the lengthy scenes in which the boss tells his employees about the United Appeals drive. Extra footage made of his audience came in handy during editing to cover instances of out-of-sync sound that developed from switching camera angles.

A Cine Special camera was used for making titles, because of its dissolving feature, which enabled us to introduce ladies and dissolves in the titles as we photographed them. The skyline of downtown Columbus was doubled as a background for the titles.

When all of our footage was put together in the first rough cut, we discovered the workprint was over 1600 feet in length. Cutting this down to the 522 feet we had set as the limit proved to be the biggest job of all.

Editing the double system sound turned into a very interesting experience. The clap stick sync marks on the sound film are easy to read, and the scene can be put in order with little trouble. A two gang synchronizer was used to hold sound and picture together. It was also used as a film measuring had not been for the fact we felt that the bi-lateral Auricon track should not be intercut with the unilateral Maurer track used for the narration.

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Since time as well as cost was a factor, it was decided that no optical effects would be used. In the final cut the fades and dissolves have not been missed and the continuity held up well to the end. The final cutting reduced the total number of scenes to 18. After the work print was cut, the narration script was written. All scenes were timed and cued for the narration. The work print was projected at a sound recording studio where the post-recording was done. The lip sync scenes were then cut into the narration track. This was then printed with the edited picture negative to produce the release prints.

All of this amounted to quite an extensive job. A rough breakdown on the time consumed shows that shooting required 60 hours, editing work print 25 hours, and recording the narration about 4 hours. Because of the tight time schedule it was necessary to have the film lab take over the job of matching the original negative to the edited work print.

Thus, six weeks after the first scene went before the camera, our film, "It All Depends On You," was finished. When the fund drive began, a total of fourteen prints instead of the 9 originally planned were in circulation. Prints were screened as often as 19 times daily during the drive. In addition, three Columbus, Ohio, TV stations televised the film a total of ten times.

Needless to say, producing the picture proved to be a great deal more work than I realized the day I naively agreed to undertake the assignment. But it also proved a wonderful education to me as well as demonstrating what a serious amateur can do in the way of making films above the amateur level, once he puts his mind to it.

**FRAME LINE SHOWING?**

(Continued from Page 488)

by the machine as you screen a show, repeatedly working the framing lever in an effort to conceal the frame line error in your movies.

Frame line irregularities show up most often in films produced by amateur cine club groups in which several members contribute footage. It’s happened to me and my club associates. Today we test and make sure all cameras render uniform frame lines before they are permitted to take part in a joint production.

Nor is this frame line bugaboo confined entirely to amateurs. I’ve seen the fault many times in professional and semi-professional 16mm films. Indeed, film libraries today still have many reels which show this glaring fault.
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THE STEEL TRAP

(Continued from Page 478)

One example of how the battery power source was used to advantage was when making the running shots of the taxi, shooting from inside the car with the players in the back seat. Two taxis were securely tied together in tandem, as shown in one of the accompanying photos. The players, Laszlo, the director, camera, and camera crew were crowded into the second taxi; the sound recording equipment and power supply batteries were in the first taxi along with the driver, a gaffer, and sound recording engineer. Thus, the two-taxi unit operated independently of outside power sources as it roamed downtown Los Angeles streets, recording action with genuine backgrounds that ordinarily would have been produced (at undoubtedly greater cost) on the sound stage using background plates. Such shots were made both day and night.

“My chief photographic problem in making these scenes,” said director of photography Laszlo, “was to balance my lighting inside the taxi to match the daylight coming through the taxi windows. For this, and for numerous other shots of similar nature, I utilized panels of tinted plexiglass having about 50% light transmission, placing them over the windows to cut down intensity of the daylight.”

Similarly, when making shots of the plane interior in the daytime, the windows also were covered with plexiglass.

The downtown Los Angeles bank, which provided the interior settings for much of the action of the picture, probably posed the major lighting problems for Laszlo and his crew. Working entirely with Colortrans and a few Juniors, excellent results were had in filming the office scenes and scenes in the giant...
vault. In shooting scenes in the vast cavernous interior of the bank's main floor, Laszlo had the advantage of some daylight coming through the windows; but when the story called for scenes where windows backgrounded the action, it was necessary to resort to use of the light-reducing plexiglass panels over the windows.

It is natural to conclude that latensification of the film was employed in order to obtain satisfactory photographic results. This was not the case, however. Using the limited lighting equipment previously mentioned and a set of choice lenses and fast panchromatic film, Laszlo achieved a realistic documentary type of photography that could hardly have been duplicated, shooting the same scenes staged in the studio.

The bank scenes were photographed each day after the offices closed at 3 p.m., and up until midnight. The company worked the following Sunday all day, which enabled it to shoot scenes in the open offices, the teller's windows, etc., unhampered by people who would normally gather to watch a movie company shooting pictures. Despite the limitations of the lighting, Laszlo worked more or less consistently at a stop of f/2.8. Where he had the advantage of daylight coming through the windows in interiors, the lens was stopped down to f/3.5.

If the reader has assumed until now that the term "documentary," applied to Laszlo's photography of "The Steel Trap," implies a quality less than that normally obtained in working on studio sets, let it be said that true documentary photography has a more realistic, natural quality, shorn of all the frills so often applied to lighting studio sets. It's a little more difficult shooting the "documentary" way. A cameraman must not only be unusually resourceful but have a genius for utilizing all the available light at his disposal.

Pointing up this quality in Laszlo's photographic technique is the sequence of shots he made inside Antoine's famed restaurant in New Orleans. The shots of the couple on the crowded dance floor are an exceptionally good example of genuine documentary photography accomplished with the aid of Colortrans, a single Junior for a key light, and the house current for power.

One of the more vexing problems for the company was the fact it had to travel light and therefore work without the advantage of a blimp on the camera. Whenever this seriously affected sound recording, camera "blankets" were used. When shooting within the limited confines of the TWA plane interior, it became necessary to put two blankets on the camera.

Only one camera, a Mitchell, was used.
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in the entire production and in no instance was a camera dolly used. All shooting was done from a tripod. Nor were there any process or special effects used. Effects normally done in this manner were incorporated in the original filming as, for example, the plane and taxi interiors in which the backgrounds, seen through the windows, are the real thing.

This is not the first experience for Laszlo in applying documentary photography to feature productions, although it is the first instance in which he or anyone else has applied it to such an extent. It was Laszlo's flair for documentary photography that marked the pictorial success of "D.O.A." and "The Well," and which added luster to "The Star"—Bette Davis starrer soon to be released.

While it may be true that pictures such as "The Steel Trap" are made to order for documentary camera treatment, it is quite unlikely that a cameraman having little or no experience in this type of treatment could achieve the dramatic photographic quality that marks "The Steel Trap." There's ample evidence as the picture unfolds on the screen that more than ordinary brain-work went into the planning of the photography of this picture. For those who'd like to study the camera work closely, we recommend a second look at the picture; you'll be too busy holding on to your seat the first time you see this thriller to think of the photography.

CINERAMA

(Continued from Page 481)

ing between them. This problem was solved by what technicians call "gigolos"—tiny gadgets that look like combs, having teeth along one edge. These are fitted on each projector on the side of the film track and jiggle up and down along the edges of the picture area of the film at high speed. These little saw-toothed "dodgers" diffuse the edges of the three Cinerama film images where they join on the screen, blending them together at the margins without a conspicuous dividing line. Incidentally, the oversized reels which feed film to each of the three Cinerama projectors hold 7,500 feet of film, which runs up to 50 minutes on the screen.

The stereophonic sound that heightens the realistic illusion of Cinerama is as new and unusual as the visual effect. When a Cinerama production is being photographed, five microphones are placed to pick up the sound in different areas of the scene. One to three others
are placed well off to one side, or behind the camera, to pick up the sound of peoples voices, roaring engines, or whatever may be approaching or leaving the scene. Each microphone leads to a recording head on the master multiple magnetic film recorder set up usually near the camera. This sound is reproduced in the theatre through five speakers arranged behind the screen—one for each of the sound tracks recorded from the set. Other speakers are placed on the walls of the theatre and another at the rear. Each speaker thus reproduces the sounds picked up by the individual mikes at a point corresponding to its position during filming, and thus produces the unusual effect of realistic sound which is an important feature of Cinerama. When a motorboat, for instance, roars across the screen, the noise of its engine begins as the boat emerges on the screen from one side, and continues coming from the position of the boat as it travels to the other side.

Title of the initial public presentation of Cinerama is “This Is Cinerama.” Filmed in Technicolor, it comprises a number of non-related subjects—a sort of melange of short subjects each complete in itself—and include, The Roller Coaster, A Ballet, The Fourth Wonder of the World, Handel’s ‘The Messiah,’ Venetian Boatmen, Kilts and Tartans, Toreador, Spanish Rhythm, The Vienna Boys Choir, The Finale from Act II of ‘Aida,’ Rare Beauty and Fast Action, and America The Beautiful.

Harry Squire is Cinerama’s cameraman. There will be others, of course, as Cinerama develops and expands; but Squire is the man who worked as avidly as did Fred Waller to make Cinerama a pictorial success. The photography of “This Is Cinerama” is a story in itself, one we hope Harry Squire will write for an early issue of American Cinematographer. He isn’t what you’d call quiet and retiring, yet today, after the tremendous work and the multitude of experiences he has encountered putting action on Cinerama film, Squire says simply, “It’s all routine to me.” But the material he photographed for Cinerama’s initial public presentation is far from routine stuff, as the reader will see should he be lucky enough to witness a screening of this initial Cinerama production. Squire found there weren’t enough lights in Italy to illuminate the stage in filming La Scala Opera Company’s brilliant presentation of the “Aida” score in an Italian theatre; additional lights had to be flown in from England, along with extra generators. He mounted his heavy Cinerama camera on the bow of a speedboat to capture thrilling footage of water sports in Florida. To film water-level shots of Cypress Gardens’ lovely Aquabelles,
Squire had his crew cut a canoe in half, mounted his Cinerama camera on a platform attached to the open end of the front section. A special camera scaffolding was built in one of the Cypress Gardens lagoons so that the outboard motor boats could come into the scene from beneath the camera. Cinerama photography presented new and interesting problems, none of them difficult—all of them challenging.

Since Cinerama’s public debut, there has been tremendous interest generated in this new motion picture innovation. Those who have not yet witnessed it on the screen quite naturally ask about its future, what its effect will be on the motion picture industry, what, if anything, will it do to change motion picture photography in general, and if it can be applied to television.

It is not likely that Cinerama will play a part in television films for sometime to come. Nor is it likely to replace general feature film production. Cinerama is in a class by itself. Its level is in the field of the super-spectacle film production. Its extreme wide angle screen is not ideal for the tight closeups we now see in dramatic films. Cinerama demands stories of great action and pictorial scope. Such pictures as “Quo Vadis,” “The Greatest Show on Earth,” “Ivanhoe,” etc., would have been tremendous Cinerama presentations.

Interest in Cinerama is likely to continue at a high level with industry heads waiting the day it can turn a profit for theatres. James Jerald, writing in “Boxoffice” for October 11, 1952, said:

“Money—lots of it—is required. A three-camera filming unit, in addition to the regular camera crew in studios, could triple print costs. This wouldn’t be an insuperable objection if the public should respond. On the other hand, six projection machines in three booths, six operators on duty in places where two men in a booth are required, and the first cost of installation running up to $75,000 could fill an exhibitor with alarm.

“How to focus attention on one or two or three or four actors in dramatic productions when the screen is the width of the theatre is something else that will require study. When Magnascope was introduced with ‘Old Ironsides’ about 25 years ago, the screen was suddenly enlarged by pulling back drapes and then closed again with the same speed for the regular lenses. It may be possible to do this with Cinerama.

“Most exhibitors will watch developments with open minds.”

The addition of Louis B. Mayer to the Cinerama organization has accelerated interest in the process. It is reported that most of the major Hollywood studios have made inquiries about utilizing it. Since Cinerama, Inc., owns all patents, it would be leased to studios.

Just how Cinerama presentations will be set up throughout the country has not been decided. There have been hints that the company would operate its own theatres. It now has equipment sufficient to operate three. At present, installation cost of equipment for Cinerama showings in theatres costs from $25,000 to $75,000, depending on the theatre. It will be much lower, Cinerama heads say, when mass production of equipment begins. Eventually, the three projector system will be replaced by a single projector, operating much the same as does the single unit, three-lensed Cinerama camera. This, it is said, will make the process economically feasible for even small town theatres. END

WHY I USED THE GARUTSO LENS

(Continued from Page 482)

the greatest freedom of movement, it was necessary to keep both players in focus at all times. Having the advantage of maximum depth of focus and using normal set lighting, we achieved a more plastic and natural photographic range. Only in this way were we able to do the unusual lengthy scenes of sustained action and thus permit the players the full scope of their familiar stage technique. One such scene, incidentally, runs approximately seven minutes on the screen; the two players move back and forth on the set in various planes of focus, the camera following them and at all times keeping both players in sharp focus, thereby obviating the necessity of individual closeups.

Most of the scenes were photographed with the Garutso balanced lens set at f/2.8, its maximum stop. In spite of this wide aperture, the desired depth of focus was achieved and at the same time the full quality inherent in the lens at its widest aperture was retained. The depth of focus thus obtained is comparable to that made possible with other lenses working at approximately f/4.5 to f/5.6.

It is recognized by photographers generally that practically all lenses deliver their most pleasing quality when working at their rated (widest) stop, and this is no less true of the Garutso. The reason is obvious. If increased depth of focus is desired, it is obtainable in the conventional lens by stopping down the aperture. The greater

END

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of the lens is altered to meet the requirements of the subjects being reproduced, the secondary plane also alters itself in relation to the varied focal lengths of the lens during this period of operation. This action is controlled by a basic optical law which makes it mandatory that the depth of focus vary as the focal length of the lens is changed for the purpose of bringing objects at various distances into focus.

By way of illustration, let us assume that the area of critical focus necessary at a given time is the distance between ten feet and infinity. During the course of the action being photographed it becomes necessary to bring the forward plane of focus up to a much closer object that has been introduced into the immediate front of the lens. As the focal length of the lens is increased to accommodate this new plane of focus, the area of depth of focus must decrease, by established law, in relation to the increased focal length of the lens.

In the case of the Garuto method, this relation of change in depth of focus maintains, more or less to a lesser degree, and in proportion to the greater depth of focus. This may be observed in a practical way through special study of several scenes in “The Four Poster,” most notable of which are the scene with the husband standing before an open window, with his wife in bed some distance behind him; the husband reclining in a semi-closeup, tossing beads at the room lights in an effort to extinguish them as his wife pretends slumber in the four poster some distance beyond; the open window in the toys sequence, and several others. These scenes especially demonstrate how the Garuto balanced lens made it possible, because of the depth of focus achieved at wide aperture, to secure the desired focal range without employing excessive illumination. To have followed the conventional technique of small aperture and an abundance of set illumination would have increased contrast and overall sharpness. This would have tended to spoil the poetic quality of the picture and produce photographically a mood not in sympathy with the story. It should also be noted at this time that I employed all of the usual methods of added optical diffusion commonly used to achieve the photographic mood which prevails in “The Four Poster.”

Irrespective of some opinions to the contrary, it has been my finding that, aside from the technical advantages afforded by the Garuto lens, which are undeniable, the results to the objective viewer do appear to have an added aesthetic quality. This is due, of course, to the general increased usable sharpness of all essential planes, thereby eliminating to a great extent the distortion that is usually present in all out-of-focus areas which, through use of this device, have been substantially reduced.

Opinions previously expressed as to the technical advantages of the Garuto lens over standard lenses have been substantiated by no less an authority than Robert B. King, Professor of Physics, California Institute of Technology. His evaluations, following critical examination of the lens, are set down in the accompanying graphs. “The results show,” King wrote in his report, “that the Garuto reconstruction substantially increased the depth of field of the lens tested. They also show that the definition was maintained and, at larger angles, considerably improved.”

Early in my experiments with the Garuto, I predicted that the proper application of added depth of focus with no attendant increase in lighting would effect an economy of operation by materially reducing the number of required setups ordinarily made necessary because of the focus shortcomings of standard lenses, and at the same time permit greater fluidity in performance and direction. I think we have achieved all this in “The Four Poster.”

BALANCED LIGHTING BEST FOR TV FILMS

(Continued from Page 487)

in a scene, his face is sure to wash out and the dark area will respond in reverse with fringing and a white haze. Experience further shows that whenever a bright white area appears in a scene—and this includes white faces in closeup against a dark background—the area will wash out on the TV screen because the ratio between the white and dark areas is too great. A typical example of this occurred early in the Burns and Allen Show series. In both medium shots and closeups of Burns doing monologue between the intervals Gracie is on stage, he was placed standing against a dark column that is part of the stage proscenium. The televised results were what one might expect—Burns’ features were hardly distinguishable, result of too great contrast between his face and the immediate background. To correct this, we lessened the ratio of contrast between the two; put darker makeup on Burns and reduced the density of color of the background, bringing them more into balance. Incidentally, all our players are now using darker makeup than is generally used in films for theatre presentation, with consequent marked improvement in the TV screen quality. Thus we find that one of the most important rules for lighting and
**Allied Artists**

**Columbia**

**Metro-Goldwyn-Mayer**
- Frederick A. Young, "Invitation To The Dance," (Technicolor) (Shooting in London) with Gene Kelly, Igor Youskevitch, Gene Kelly, director.
- Charles Rosher, "Young Bess," (Technicolor) with Jean Simmons, Stewart Granger, Deborah Kerr, Chas. Laughton, George Sidney, director.
- Robert Planck, "Remains To Be Seen," with June Allyson, Van Johnson, Louis Calhern, Don Weiss, director.
- George Folsey, "The Band Wagon," (Technicolor) with Fred Astaire, Cyd Charisse, Vincenzo Minnelli, director.
- Harold Lettsen, "Fast Company," with Howard Keel, Polly Bergen, Nina Foch, Marjorie Main, John Sturges, director.

**Paramount**
- George Barnes, "Little Boy Lost," with Bing Crosby, Claudia Dapuhin, Nicole Maurey, Chris Fournace, George Seaton, director.

**20th Century-Fox**
- Leo Tover, "The President's Lady," with Susan Hayward, Charlton Heston, Fay Bainter, Gladys Hurlbut, Charles Dingle, and John McIntyre, Henry Levin, director.

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**Universal-International**
- Cliff Stine, "Law And Order," (Technicolor) with Ronald Reagan, Alex Nicol, Susan Cabot, Preston Foster, Dorothy Malone, Russell Johnson, Nathan Juran, director.
- William Daniels, "Thunder Bay," (Technicolor) with James Stewart, Joanne Dru, Gilbert Roland, Dan Duryea, Marcia Henderson, Jay C. Flippen, Anthony Mann, director.

**Warner Brothers**
- Carl Guthrie, "The Jazz Singer," (Technicolor) with Danny Thomas, Peggy Lee, Mildred Dunnock, Edward Flanders, Allyn Joslyn, Michael Curtiz, director.
- Wilfred Cline, "By The Light Of The Silvery Moon," (Technicolor) with Doris Day, Gordon MacRae, Rosemary DeCamp, Leon Ames, Mary Wickes, David Butler, director.

**Independent**
- James Wong Howe, "Main St. To Broadway," (Cinema Prod.) with Tallulah Bankhead, Olivia de Havilland, Faye Emerson, H. Fonda, R. Harrison, M. Martin, Tay Garnett, director.
- Karl Stover, "Tarzan And The She Devil," (Sol Lesser Prod.) with Lex Barker, Peggy Conklin, Joyce Mackenzie, Kurt Neumann, director.
- John Alton, "The Thirteenth Man," (Ben-Bo Prod.) with Teresa Wright, Macdonald Carey, Don Siegel, director.
photographing films for television is to achieve proper light balance between players' faces and the set.

I have found that, by painting our sets light green, light tan, deep yellow, etc., and using wallpaper of corresponding hue, we obtain tonal qualities satisfactory to the iconoscope tube.

Just as conventional studio lighting methods must be altered to suit the medium of television, so also is it necessary to change the conventional method of checking and analyzing such films. I never screen any of my television films in the projection room. Instead, I see them on a closed television circuit, even though this method will give me a better picture than is normally seen on the home receiver. Here again the vagaries of the electronics system play a huge part in the final screen result.

I think one of the important things the TV film cameraman should always keep in mind is the fact that while we nominally have a printing range of twenty-two lights on our light tests, when television films are projected from the tube, this range is reduced to but two points below and above their projection range.

Unfortunately, when good film quality is achieved in television films, there are still some factors which tend to degrade their quality by the time they are seen on the home receiver, with consequent criticism for the photographer. These include poor sound reproduction, image unsteadiness, and lack of resolution in the image. The first two of these may be traced directly to poor projection equipment in the television stations. There is little excuse for this condition prevailing today. Witness the quality of the best film programs put on by the major networks. It is impossible today to tell 16mm from 35mm prints if both have been made carefully and well by the laboratory technicians, and are being projected on the best available projectors made especially for the purpose.

The third factor, namely the lack of resolution, is most often attributable to poor duplicating techniques in the laboratory. In the handling of reduction prints it is necessary that even greater care be used to retain fine detail than need be used in the making of straight 35mm contact prints, in order that the end results be the same. Before criticizing the laboratory, however, the cameraman first must look to his own techniques; and this brings us back to the basic subject of this treatise—the need for more careful light balance in the photography of films for television.

**INDIA FILM TECHNICIANS**

(Continued from Page 477)

pictures in India, and emphasized the important part that study of American films played in their technical education.

Producer-director D. Subramanyam described the difference in the working conditions of an Indian cameraman and the average director of photography in Hollywood. In India, the chief cameraman has no "assistant" or "operator" as we know them here, he explained, and said that in most cases the chief cameraman is also his own assistant, camera coolie, etc.—carrying his camera from setup to setup, loading the film, and shooting the picture.

Subramanyam, who is a member of the Cine Technicians' Association of Madras, said he was impressed with the happy spirit of cooperation that exists among members of the ASC. He extended an invitation to the Society to send one of its members to participate in India's Festival of Arts, which is to be held in Bombay sometime in December.

The visitors were especially impressed by the display of motion picture equipment in the lobby of the clubhouse, prior to the dinner. Here they had opportunity to examine first hand the latest model Mitchell 35mm motion picture camera; the new Auricon "Super 1200" 16mm sound-on-film camera; a new compact, light-weight camera dolly, which was demonstrated by its designer Steve Krilanovich, RKO studio sound engineer; the new Kinevox automatic scene slater for Mitchell cameras, which was demonstrated by its designer, Len Roo, ASC; and a revolutionary new 35mm automatic film splicer, introduced by Sidney Solow, ASC, head of Consolidated Film Industries. Later in the evening, Solow described some of the very interesting motion picture developments which he had found in Europe during his recent visit there.

Following the dinner, ASC members and their Indian guests were given a screen demonstration of the recently introduced Vistascop process, which involves the use of a special camera device and photo cutouts to produce action scenes without the need for constructing...
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sets. (See American Cinematographer for August, 1952.—ED.)

The original demonstration film made by the French inventor, Achilles Pierre DuFour, was screened followed by tests made both in black and white and color by Paramount engineers. The demonstration revealed how the actual "set" appears with the photo cutout or matt removed from the Vistascope.

Dr. Charles Daily, Paramount Studio engineer, described the process step by step during the screening, and answered questions regarding the use of Vistascope in major film production. The Indian technicians were particularly impressed with the possibilities of applying the Vistascope to their country's film making system. According to one of the visitors, the process could aid them greatly in shooting action in distant locales where now they are often hampered by transportation problems.

Each of the Indian technicians has an extensive and interesting career in motion picture production. Cameraman B. P. Divecha has photographed more than fifty Indian feature films during the last two decades. He claims to have learned most of the fine points of his profession by seriously studying the photography of films made in America. As a result, he is familiar with the names and the work of just about every director of photography in the Hollywood studios. He manages to see at least one Indian or foreign-made feature film daily, which probably makes him the leading film reviewer of his country.

Producer-director D. Subramanyami is one of the important figures in the Indian motion picture industry. He sponsored the Madras United Artist Corp., and later the Motion Picture Producers Combine Studios. He is well-informed on every phase of the industry throughout the world, and believes the cameramen are of utmost importance to the success of any motion picture. His speech before the ASC members and guests was most impressive.

Art director M. R. Acharekar is the author of a number of books on art and he also founded the Art Academy in Bombay in 1945. Acharekar was commissioned by Lord Wellington, when the latter was Viceroy to India, to record jubilee celebration of King George V. Minoo Katrak joined the sound recording department of Famous Cine Laboratory in Bombay in 1948 as recording director. Since then he has specialized in music recording for most of the motion pictures made by Indian independent film producers. As music predominates in most of the Indian pictures, Katrak is one of the industry's busiest men.

Producer-exhibitor B. N. Sircar established New Theatres Ltd. in Calcutta in 1930, and has held important posts in nearly all Indian motion picture trade organizations. He was also a member of the 1949-50 Film Inquiry Committee, appointed by the Government of India. During the Indians' visit, they were also hosted by each of the major studios of Hollywood in day-long tours of sound stages and at luncheons. Officially welcoming the visitors to Hollywood were Y. Frank Freeman, board chairman of the American Motion Picture Producers Association, and Frank Capra who recently spent eight weeks in India representing the United States at the Indian International Film Festival.

VARIABLE SHUTTER

(Continued from Page 484)

of three swivelling bars and a control handle and other miscellaneous parts, form the unit for advancing or retarding the auxiliary shutter disk.

The accompanying illustration shows modification of exterior of the Bolex H-16 camera with the adjustment lever, indicated by the arrow A, protruding and operating in a slot, and the scale plate which shows the range of shutter opening from closed, to 1/4, 1/2, 3/4 and full open. By proper setting of the lever, the following range of shutter speeds may be obtained:

SHUTTER SETTING OPEN 1/4 1/2 3/4
8 frames per sec. 1/18 Sec. 1/48 1/30 1/70
16 1/33 1/53 1/70 1/140
24 1/53 1/70 1/105 1/210
32 1/70 1/105 1/140 1/280
64 1/140 1/210 1/380 1/560

Altering the shutter opening changes the amount of light reaching the film and therefore changes the exposure. In order to obtain the same exposure while increasing the shutter speed, the lens stop is increased. The procedure is reversed when decreasing the shutter speed.

For the benefit of Bolex camera owners who may be interested in the installation of a variable shutter in their cameras, Tullio Pellegrini has prepared a comprehensive booklet explaining his installation and describing in detail how various effects are achieved through its use. Address him at 1545 Lombard Street, San Francisco 23.

Color In Newsreels

The American Newsreel, which is devoted entirely to events of interest to Negroes, will include one sequence in color in its reels starting October 15, according to Showman's Trade Review. Eastman negative-positive color film will be used and in the initial presentation will show Colored America at Atlantic City.
STUDIO & PRODN. EQUIP.

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HIGH SPEED AUTOMATIC 16MM REVERSAL PROJECTORS Laboratory use; stainless steel tanks, complete. Easily converted to color. $6,000.00 replacement cost.

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40, 50, 75 and 100mm F2.3 coated lenses;

$315.00. Best buys . . best trades always.

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B & H SPECIALIST Camera w/ 3 lenses;

40, 50, 75 and 100mm F2.3 coated lenses;

$315.00. Best buys . . best trades always.

root footage counter, 200 ft. capacity, daylight

some new, some slightly used:
WHAT'S NEW

in equipment, accessories, service

TRADE NOTES — Glen Glenn Sound Co., Hollywood is among the nine foreign and domestic companies signing recording licensing agreements with Westrex Corporation. Photo Research Corp., Burbank, will supply Consolidated Film Industries with densitometry equipment for CFI's new 16mm film lab. T. J. Hargrave, chairman of the board of Eastman Kodak Company, Rochester, N. Y., celebrated his 25th anniversary with the company last month. Hargrave is youngster ever to attain position of board chairman with Kodak. Swann Devil, Hollywood's first 3-dimension color production, features magnetic sound recorded on Stancil-Hoffman equipment, has been selected by Notre Dame University's Audio Visual Center to process its football films. Kadisch Camera and Sound Equipment Co. has moved to new quarters at 500 West 52nd Street, New York City. Frank Zucker, head of Camera Equipment Company, was in Hollywood last month on business. Among the new motion picture equipment which he contracted to distribute in the east is the new Kine vox automatic scene slater, has also set up servicing of the equipment for east buyers. Anseco's Boston District office has moved to new and expanded quarters at 50 Federal Street, Boston. L. H. Purcell is district manager. Dr. Martin L. Klein, former faculty member of Pennsylvania and Stanford Universities, has joined the technical staff of Stancil-Hoffman Corp., Hollywood. Benjamin Berg Agency, U.S. distributor for Eclair cameras, expects soon to have the new Eclair 35mm studio camera available for delivery from Hollywood. Camera features through-the-lens viewer, same as the Camecette.

Sno-Gel Ice, a gel-like compound produced from a mixture of processed powder and water and encased in a flexible plastic bag, may be frozen solid in an ordinary refrigerator then used to refrigerate a wide range of perishables, including motion picture film. It is finding wide use in the film industry as a refrigerant for films transported in tropical countries. It is said to be simpler to use than dry ice, and is completely free of moisture. When Sno-Gel Ice melts, it remains in its waterproof container, may be quickly re-frozen, used over and over again. Distributor is Sno-Gel, Inc., 10715 East Daines Dr., Temple City, Calif.


Mitchell Camera Company, 666 West Harvard St., Glendale 4, Calif., announces that recently increased production of its professional 16mm camera now permits company to make deliveries within a 30-day period. Stepped up production is due to demand for Mitchell "16s" by Government Armed Forces.

Processing Of Foreign Films — Cine cameras having foreign brands of 8mm and 16mm films requiring processing in this country, may secure this service from General Photographic Supply Co., 136-140 Charles St., Boston 14, Mass. Cost per roll is as follows: Dufaycolor, $1.50; Agfacolor (neg-pos) Ferrania-color, Fujicolor, Gevacolor, Ilfordcolor, Lumierecolor, Pakicolor, Sakuracolor, Telecolor, etc., $3.50 per roll. Company also offers to supply prints of frame enlargements of such films at moderate cost. Payment in advance must accompany all orders.

TV Film Titles — Ray Mercer & Company, 4241 Normal Ave., Hollywood 29, Calif., has expanded its title department to better serve the increasing demand for titles for television films, a specialty of the company.

REVIEWS

(Continued from Page 470)

Greene, said to be the inventor of the first motion picture camera. Cardiff's real talents come to the fore in his execution of the low key shots of Friese-Green in his film laboratory, and again with his candid camera shots at the carnival preceding the introduction of the first showing of moving pictures there.

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Cauldron boil ... and kettle bubble...

Difficult though they may be, situations like these do come off; thanks to the care with which film and chemicals are keyed to specific photographic situation and production methods; thanks, also, to the rigid control of processing solution strength and temperature.

In this area—in production, distribution, and exhibition, too—representatives of the Eastman Technical Service for Motion Picture Film are proud to serve the industry.

To maintain this service, the Eastman Kodak Company has branches at strategic centers ... invites inquiry from all members of the industry. Address: Motion Picture Film Department, Eastman Kodak Company, Rochester 4, N. Y. East Coast Division, 342 Madison Avenue, New York 17, N. Y. Midwest Division, 137 North Wabash Avenue, Chicago 2, Illinois. West Coast Division, 6706 Santa Monica Blvd., Hollywood 38, California.
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Now Bell & Howell brings the making of sound movies within your reach. Here is the new 16mm Filmosound 202— not just a sound movie projector — not just a magnetic sound recorder — but a combination of both for making and showing sound movies. You need no expert knowledge, no costly professional equipment.

With the Filmosound 202, narration and sound effects to accompany the film can be recorded just the way you want them . . . while all details are fresh in your mind. Changes in the sound can be made when and as often as you want them. Only with magnetic sound movies is this possible at but the cost of the film and soundstripe.

Now you can add sound to old silent films . . . new sound to a film with an obsolete sound track. Use coupon for full details on magnetic sound movies and the new Filmosound 202. Or see your Bell & Howell dealer today!

Record voice and sound effects, and mix voice with musical background, as picture is projected. All recording errors can be easily and quickly corrected. Magnetic recording will last for life of the film, yet can be changed instantly.

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MERRY CHRISTMAS

The HOUSTON FEARLESS Corporation
You know this camera as well as you know your own name.

You know that the negatives it photographs are the steadiest in the business.

You know it is largely responsible for the standards of perfection in the industry today.

You know the company that makes it.

But do you know that this camera has the only intermittent film movement that runs at 200 frames per second?
ARTICLES
The Development of Follow-Focus In Cinematography—By Frederick Foster
The Photography Is Important to Hitchcock—By Hilda Black
Assignment In Germany—By Joseph Brun, ASC
Overhead Lighting for Overall Set Illumination—By Joseph Rutterberg, ASC
Local Cine Cameraists Can Ease the Way For the Professional On Foreign Assignments—By N. P. Harbathan
Techniques For TV Commercials—By William R, Witherell, Jr.
From Lerpae To Jackman To Chance—By George Stevens

AMATEUR CINEMATOGRAPHY
How To Make Movies Tell A Story—By John Forbes
Tempo Puts The 'Move' In Movies—By A. D. Roe

FEATURES
Hollywood Bulletin Board
Closeups—Notes And Editorial Comment By the Editor
Cinematography Reviews
What’s New
Current Assignments of ASC Members
Index To American Cinematographer—1952

ON THE COVER
In lush, tropical settings on British Western Samoa, Winton Hoch, ASC, (shown behind camera at left) directed the Technicolor photography of Aspen Pictures Productions’ “Return To Paradise,” starring Gary Cooper. Mark Robson directed the picture.
world's toughest picture problems invited!

Today, the famous Mitchell 16mm and 35mm Cameras are being used in increasing numbers in every part of the world. Pioneered by Mitchell, masterful engineering and quality workmanship has produced these flawless, precision-built motion picture cameras.

Every sturdy, proven Mitchell part... and versatile accessory... is adjustable to the most extreme and difficult photographic conditions the world over.

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Hollywood
Bulletin Board

VIRGIL MILLER, ASC, (left) is congratulated by Fred Jackman, ASC, for "job well done," following screening of "Navajo." Miller filmed it.

AMERICAN SOCIETY OF CINEMATOGRAPHERS, at its November meeting, was host to director of photography Virgil Miller, ASC, and Hall Bartlett, cinematographer and producer respectively of the documentary feature production, "Navajo." The picture, which has garnered raves for its photography, was screened for ASC members and guests.

Also sharing honors as the Society's guests were Toshio Ubakata, Japanese cinematographer and his American representative, Fred Ota. Mr. Ubakata demonstrated a two-part reel of color film which he photographed in Japan using the new Japanese-made Fuji Process reversible 35mm color film—a product said to be similar in character to Anso Color film.

ROBERT HOAG, cinematographer in the duping and optical printing department of Metro-Goldwyn-Mayer Studio, was admitted to membership in the American Society of Cinematographers last month. Admitted as Associate Members were John Bishop, who recently succeeded Ray Wilkinson as head of the camera department at Paramount Studio; O. W. Murray of Cinecolor Corporation, Burbank; and Harry Pratt, assistant to E. O. Blackburn of W. J. German, Inc., Hollywood.

KARL FREUND, ASC, who received an SMPTE Fellowship Award at the Society's 72nd Semi-Annual Convention in Washington, D.C., last October, addressed members of the SMPTE's Pacific Coast Section in San Francisco during the Section's three-day get-together November 23-26. Freund's talk embraced the shooting of live action TV shows on motion picture film, based on his experiences in photographing the "I Love Lucy" and "Our Miss Brooks" TV shows for Desilu Productions, Hollywood.

CHARLES G. CLARKE, ASC, one day last month returned to the scene of his earliest triumph when he filmed sequences with Dale Robertson and Lloyd Bridges at Vasquez Rocks, in Southern California, for a forthcoming 20th Century-Fox western. It was exactly 20 years earlier to the day that Clarke had photographed the late Tom Mix at the same locale for "Destry Rides Again." Recalling the incident were Clarke's initials inscribed on the face of a sandstone rock back in 1932.

DON NORWOOD, ASC, inventor of the incident light exposure meter which bears his name, has developed a revolutionary new exposure meter for flash photography, said to be the first of its kind. Tradenamed the Norwood Flashrite exposure meter, device is to be manufactured and marketed by Director Products Corporation, makers of the original Norwood meter.

JOHN SEITZ, ASC, last month completed the photography of National Pictures' color thriller, "Invader From Mars." Picture marks first use in Hollywood for a feature production of a new 35mm color negative for incandescent light—a film stock not yet generally available. Results, which Seitz obtained with the new film, are said to be highly gratifying.

JOSEPH BIROC, ASC, who photographed the stereofilm, "Bwana Devil," has been signed to direct the photography of "Harness Bull," for Sequoia Pictures, Hollywood.

NICK MUSURACA, ASC, whose home lot is RKO, now temporarily inactive, is currently at Motion Picture Center Studios where he is directing the photography of Alex Gottlieb's "The Blue Gardenia," starring Anne Baxter.

ALFRED GILKS, ASC, last month completed the photography for Wilding Pictures of a color production featuring the new 1953 line of Chrysler automobiles. Photographed on Eastman 35mm color negative, the production was processed by Pathe Laboratories, Hollywood.
MAURER
16mm
AT WORK FOR THE JAPANESE GOVERNMENT!

Ian Mutsu, president of the International Motion Picture Company, Tokyo, makes films for the Japanese Government... and for United Press-Movietone TV Newsreel. What camera? The Maurer “16,” of course. “Thoroughly satisfied,” says Mr. Mutsu... as all the world’s top professionals say of the Maurer “16”... because it meets so many varied needs, gives top performance under all conditions of light, temperature and humidity.

THE MAURER 16MM, designed specifically for professional use, equipped with precision high-power focusing and view-finder. Standard equipment includes: 235° dissolving shutter, automatic fade control, view finder, sunshade and filter holder, one 400-foot gear-driven film magazine, a 60-cycle 115-volt synchronous motor, one 8-frame handcrank, power cable and a lightweight carrying case.

THE 16MM. SOUND-ON-FILM RECORDING SYSTEM combines the highest fidelity in 16mm. recording practice with wide flexibility and extreme simplicity of operation.

THE MODEL F PRIME RECORDING OPTICAL SYSTEM AND GALVANOMETER. A complete light modulating unit for recording sound photographically upon standard film, requires no special servicing or spare parts (other than recording lamp).

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The Most Versatile Camera In The World...

The CAMERETTE is the ONLY reflex motion picture camera with adjustable shutter, 200° to 40°... Ability to use short focal length lenses.

Divergent three-lens turret accommodates 18.5mm to 300mm lenses.

Fully automatic quick change magazines 100 foot and 400 foot...

AND

The 16/35mm CAMERETTE is the ONLY motion picture camera able to photograph with both 16mm and 35mm film, black and white or color...

The CAMERETTE is a precision-built, professional motion picture camera, light-weight, dependable, versatile, with a complete line of accessories for all types of photography.

Write for illustrated folder and price list.

Christmas is not the only thing they're getting ready for in Hollywood. There are the forthcoming Academy Awards presentations to be preceded by nominations, deliberations and final voting. All this bespots Hollywood film folk this time of year when plans are accelerated to put into release before the traditional December 31st deadline those as yet unreleased pictures which the producers are hopeful stand a good chance for nomination for one or more Awards.

From the point of photography, there already has been released a greater number of pictures having nomination possibilities than in any previous year, and this is going to make the final selections quite a chore for Academy members.

There still are a number of top notch productions, wonderfully photographed, yet to be released before the December 31st eligibility deadline. Among these are:

- "Come Back Little Sheba" (Paramount) photographed by James Wong Howe, ASC; "The Bad And The Beautiful" (MGM) by Robert Surtees, ASC; "The Jazz Singer" (Warner Bros.) by Carl Guthrie, ASC; "Hans Christian Andersen" (Goldwyn) by Harry Stradling, ASC; "Member Of The Wedding" (Columbia) by Hal Mohr, ASC; "The Four Poster" (Columbia) by Hal Mohr, ASC; "Stars And Stripes Forever" (Fox) by Charles G. Clarke, ASC; "The Star" (Buena Vista) by Ernest Laszlo, ASC; "Limelight" (Chaplin) by Karl Struss, ASC; and "My Cousin Rachel" (Fox) by Joseph LaShelle, ASC.

The nominations period which precedes the Awards usually finds the major attention concentrated on selecting nominees for best acting, best picture, and so-called major awards, with too little attention given to the industry's technical achievements.

However, it is significant that at the moment the industry's two outstanding attractions are Cinerama, and Natural Vision 3-dimensional films, both the result of outstanding achievement contributed by technical crafts of the motion picture industry. Both Cinerama and Natural Vision are essentially photographic achievements embracing new and daring cinematographic innovations which have won wide public acceptance and therefore are likely to have far-reaching effect on the future of motion pictures.

The value of the Academy Awards comes up periodically for debate, usually following the presentation of awards each year. All the major studios contribute to the support of the Academy. After the presentation ceremonies have become just a memory, sometimes a period of retrospection sets in when the studios' brass wonder if the big annual Awards event really justifies the cost.

Well, putting aside any considerations relating to the prestige a Best Picture or Best Actor "Oscar" would give their product, how about the boost to the morale which the Awards give to studio personnel? We wonder if studio executives ever measure the Awards event in terms of incentive—the incentive given a cameraman to do a better job, or for an actor or actress to give a superior performance, hoping there might be an "Oscar" in it for them come the following March? That incentive, we think, is easily worth the annual Awards cost.

Few people realize that one of the busiest motion picture production centers in North America, outside of Hollywood, is located in Montreal, Canada. Here Associated Screen Studios have been established for many years, turning out newscasts, short subjects and industrial films.

This studio is presently celebrating the twentieth anniversary of its most successful product—the Canadian Cameo series of theatrical short subjects, which are distributed internationally. Hollywood joins with other world film production centers in hailing Associated's success, and wishes them continued success in the future.

Correction: Last month, editorial grem¬lins caused a transposition in the last line of the caption under the lower right-hand illustration on page 482, relating to Hal Mohr's story on use of the Garut¬so lens. It should have read: "The Stan¬dard lens graph line is indicated by 0, the corrected lens by x." —A.E.G.
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The First Arc

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By famed English scientist,
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BLOODHOUNDS OF BROADWAY — Photographed in Technicolor by Edward Cronjager, ASC, for 20th Century-Fox. Produced by George Jessel and directed by Harmon Jones.

A solid Damon Runyon story, Mitzi Gaynor and Scott Brady as the stars, and George Jessel to produce it, are just about all anyone could ask in a color musical. Add to this superlative Technicolor photography by Edward Cronjager and the result is a swell package of pictorial entertainment.

This also is probably one of the most skillfully lit and photographed color musicals to come out of Hollywood during 1952. From the very first scene the photography demonstrates a quality of warmth and vitality that sparks the gay mood which prevails to the final fadeout.

Here is real “painting with light,” a skill which is particularly demonstrated in some of the dance numbers where light changes show slick coordination between gaffer and crew and the director of photography.

It’s a known fact that the pictorial quality of a scene or subject often depends on placing the light source at precisely the right distance away. Cronjager apparently has mastered well this technique, as indicated by the pleasing rich tone and color quality of his medium and closeup shots.

Students of cinematography can learn much from a careful study of this picture.

ROAD TO BALI — Photographed in Technicolor by George Barnes, ASC, for Paramount Pictures. Produced by Harry Tugend and directed by Hal Walker.

Needless to say, Bing Crosby, Bob Hope and Dorothy Lamour are the stars of this Technicolor musical farce, as they have been in all the other “Road” films that have preceded it. From the very first scene the photography demonstrates a quality of warmth and vitality that sparks the gay mood which prevails to the final fadeout.

For tough and trying assignments, ARRIFLEX 35 is in a class by itself. Reflex focusing through photographing lens while camera is operating—this is just one outstanding ARRIFLEX feature.

Equipped with bright, right-side-up image finder, 6 1/2 x magnification. Solves all parallax problems. 3 lens turret. Variable speed motor built into handle operates from lightweight battery. Tachometer registering from 0 to 50 frames per second. Compact, lightweight for either tripod or hand-held filming. Takes 200’ or 400’ magazine. Write for free folder.

For tough and trying assignments, ARRIFLEX 35 is in a class by itself. Reflex focusing through photographing lens while camera is operating—this is just one outstanding ARRIFLEX feature.

THE MURDER (May later be retitled “Angel Face”) — Photographed in black-and-white by Harry Stradling, ASC, for RKO-Radio Pictures. Produced and directed by Otto Preminger.

RKO was well repaid for the extra sum it cost them to get Harry Stradling to de’er a long-awaited vacation in order to direct the photography of this picture.

Stradling has embellished the production with his well-known style of mood lighting and a special photographic treatment of Jean Simmons, who co-stars with Robert Mitchum, but who actually is the dominant character in a drama of a twisted mind that stops not at murder to fulfill its romantic desires.

Never before perhaps has Miss Simmons been so carefully photographed as to reveal her true personality and to bring out her best physical and histrionic qualities. It is also interesting to note how Stradling frequently employs a precise camera angle to point up mood or to motivate or sustain some dramatic point in the story.

Among other photographic highlights are the two automobile crash scenes, which were not done in miniature or by process. The crashes are real. Five different cameras were employed in filming the action. In one crash, one camera was almost totally destroyed by the hurtling automobile, indicating to what lengths director Preminger went to get utmost realism in this production.

Reviewed here each month are new Hollywood feature film releases which demonstrate noteworthy photographic techniques of interest to students of cinematography. Unfortunately we cannot review all new releases, and failure to review a particular film implies no lesser photographic achievement.
The ideal 35mm movie camera for TV Newsreel, Industrial, Travel and Scientific Motion Picture Photography.

FAMOUS ARRIFLEX FEATURES:
- Reflex focusing through taking lens, even when camera is running.
- Bright erect image finder, 6½ x magnification.
- "Follow-focus" without assistant.
- No parallax or other finder problems.
- Full frame focusing and viewing.
- 3-lens turret.
- Quick change geared film magazines (200 and 400 feet). No belts to connect.
- Variable speed motor built into handle.
- Tachometer registering from 0 to 50 frames per second.
- Compact, lightweight.
- Equally adaptable for tripod or handheld filming.
- Easily detachable matte box-filter holder.

Season's Greetings

May the New Year bring you the fullest measure of success and happiness — and may Arri equipment help you more and more in attaining the finer results that will always distinguish your work.

1953 will see several exciting new Arri products appear on the market to make your job easier — to do it better — and to save you money, a Tradition with Arri since 1918!

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Remember MGM's "The Wild North" with its truer color... its excellent screen steadiness... its finer grain... superior definition... greater brilliance and depth!

now discover the real economy

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YOU SAVE IMPORTANT MONEY THESE THREE WAYS:

1. NO SPECIAL CAMERA REQUIRED!
Any competent cinematographer with standard 35mm camera equipment can do an excellent job with Ansco Negative-Positive Color!

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Minor modifications adapt standard black and white equipment to the processing of Ansco Negative-Positive Color!

3. YOU SEE COLOR RUSHES SOONER!
No costly, drawn-out delays — no holding of sets or keeping casts on location for long periods while you wait to see the results of your shooting!

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A DIVISION OF GENERAL ANILINE & FILM CORPORATION. "FROM RESEARCH TO REALITY."
What's New...
In Equipment, Accessories, Services

Giant Telephotos — Telephoto lenses for motion picture cameras, some ranging up to 40 inches in focal length, are now being distributed in the U.S. by Ercona Camera Corp., 527 Fifth Ave., New York 17. Lenses are available in mounts to fit most 16mm and 35mm cameras. Dual mounts also may be had so lenses may be used interchangeably on still or motion picture cameras. Prices range from $195 to $1,250.

Soundstripe Price Reduced — Reduction in price of Soundstripe from 3½c to 2½c per film foot is announced by Bell & Howell Company. New price applies to full or half-track on single-perforated film or quarter-track on double-perforated film. Minimum charge for Soundstripe service also has been reduced from $10.50 for 300 ft. or less to $5.00 for 200 ft. or less. Also announced is fact Soundstriping in future will include a balancing stripe on opposite edge of film.

Presto-Seal Splicer — Engineering Products Dept. of RCA Victor Division will distribute within the U.S. the splicing equipment for 35mm, 17½mm and 16mm films manufactured by Presto-Seal Mfg. Corp. The equipment is designed to splice all types of safety and magnetic film with a butt-weld end-to-end splice, without any overlap or need for cement.

Optical Printing School — Cinema Research Corporation of Hollywood together with International Photographer's Local No. 659 announce they have joined forces to set up training classes in optical printing and special effects work. Heavy demand for optical printing technicians as result of increasing growth of TV and color film production, makes training of new technicians necessary, according to Harold Scheib, Cinema Research head.

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MANUFACTURERS OF SOUND-ON-FILM
RECORDING EQUIPMENT SINCE 1931
Dear Virgil:

I want to take this opportunity to express publicly, and particularly to your fellow members of the A.S.C., my gratitude for your contribution to my first production, "Navajo." The trade press, the newspaper critics, and the magazine critics have rendered a unanimous decision on your work. They are right. You are the real star of this picture.

Your artistry is on the screen for everyone to see. But only those of us who made the picture with you, and who saw constantly the results of your great experience, your willingness to give everything you had, and your fine spirit, realize that "Navajo" could not possibly have been made without you.

My hat's off to you, Virg, now and always,
Sincerely,

Hall Bartlett

Open Letter to the Real Star of "Navajo"

ACCLAIMED in the Nation's press —

“Virgil Miller is the unseen star of 'Navajo.' His photographic shots are a series of stunning pictures of the Navajo country.”
—New York Daily News

“'Navajo' is a personal triumph for Virgil E. Miller, whose camera work will certainly rate Academy attention.
—Los Angeles Daily News

“Mark 'Navajo' down as one of the outstanding pictures of this year; the photography of Virgil Miller has almost a poetic mood and quality.”
—Philadelphia Daily News

“Magnificently photographed by Virgil Miller.”
—Showmen's Trade Review

“Virgil Miller’s camera work is strikingly beautiful.”
—Time Magazine

“Virgil Miller’s photography plays a major role in making 'Navajo' a memorable screen milestone. This is the most beautiful black-and-white film this reviewer has seen.”
—Baltimore Sun

“Even the contenders for starting posts in the next annual Oscar Derby agree that Virgil E. Miller’s photography of 'Navajo' is certain to be considered for Academy Award nomination.”
—Hollywood Citizen News

“Virgil E. Miller’s photography is the most beautiful we’ve seen in many a year.”
—Washington Post

“Virgil Miller’s photography is breath-taking.”
—San Francisco Chronicle

“Virgil E. Miller, one of Hollywood’s ablest cameramen, has contributed all his knowledge and all his experience to give ‘Navajo’ a scenic background that has to be seen to be believed.”
—Motion Picture Herald

“Virgil Miller contributed most impressive camera work to make ‘Navajo’ a film long to be remembered.”
—Philadelphia Enquirer

“Veteran cinematographer, Virgil E. Miller, composes landscapes of incomparable majesty as the camera picks up the ant-like human figures clinging to the canyon walls, and inching across endless sands. Every frame in the picture would make a stunning adornment for any wall.”
—Memphis Press-Scimitar

“Virgil Miller’s photography is outstanding. Every scene of ‘Navajo’ is beautiful enough to remove from the movie and frame as a lovely still photograph.”
—Rocky Mountain News

“Virgil Miller’s photography is hauntingly beautiful.”
—Kansas City Star
The Development of Follow-Focus In Cinematography

Some of the interesting developments that have taken place which make possible sharp focus throughout moving camera shots.

By FREDERICK FOSTER

The extent to which crane and dolly shots are used today never would have been possible without the development of automatic follow-focus. Without it, moving camera shots could not be held in sharp focus throughout a take except with the greatest of difficulty. Today, the focus ring on the lens is changed progressively and automatically forward or backward by remote control as the camera moves toward or away from the subject in a dolly or crane shot.

Before the coming of sound, neither the matter of finder parallax nor that of follow-focus was considered important. Finders were placed very close to the photographing lens, reducing parallax to the minimum, and as moving camera shots were seldom made in those days, finder parallax could be compensated by setting the finder according to a pre-calibrated scale, or by checking the angles against that seen on the ground glass.

With the advent of sound, cameras were placed in relatively large, sound-proofed blimps. This necessitated either enclosing the finder with the camera, thereby restricting the operator’s freedom in viewing the finder image, or placing the finder outside the camera blimp, at a considerable distance from the camera lens, inevitably increasing the problem of finder parallax to a high degree. Almost at the same time, the moving camera and other techniques were introduced, and these made following focus a factor in an increasing number of shots.

Among the men in the industry to tackle the problem was John Arnold, ASC, executive director of photography at Metro-Goldwyn-Mayer Studios. Arnold developed a successful semi-automatic follow-focus finder for use on studio cameras. The device, which won one of the Academy’s achievement awards in 1937, facilitated camera operation by correlating the focusing of the shooting lens and finder lens and simultaneously correcting for parallax. This was accomplished with such precision that the sharpness of focus in the finder could be relied upon to indicate corresponding properties in the photographic image, thereby materially increasing the speed and accuracy of production photography, particularly in follow-focus shots.

Conventional practice revealed plenty of methods by which a finder could be pivoted to correct for parallax, making its field of view coincide with that of

(Continued on Page 552)
BECAUSE Hitchcock insisted on the utmost realism and authenticity for "I Confess," most of the picture was filmed in actual locales. Here Robert Burks, ASC, lines up his camera for important scenes in a local courtroom in Quebec.—(Photo by Jack Albin.)

A CAMERAMAN ASSIGNED to an Alfred Hitchcock production can be sure of one thing: the photography of the picture will be all-important. Hitchcock, always meticulous about the camera treatment of his pictures, expects two things: top-quality photography, and ability in the cameraman to accomplish the unusual and often next-to-impossible camera shots he dreams up. And because he will do everything to make it possible for his director of photography to achieve these, cameramen have come to know that working with Hitchcock means real opportunity to do a thoroughly creative job of lighting and photography.

Analyzing the touch of a master-craftsman is not easy and even after the most careful and diligent scrutiny, there remains always an indefinable "something" for which the researcher can find no name. But in the case of Hitchcock there is at least one outstanding and obvious reason for the amazing success his pictures attain: he knows photography, and he directs his pictures with a clear understanding of the camera's capabilities and its limitations.

To him, the camera is the story teller—the star performer on any set. Accommodations invariably are made to suit the convenience of the camera, rather than reversing the procedure, and it is this unique stress on camera importance that yields to all Hitchcock productions their undisputed excellence.

It follows that the cinematographer Hitchcock selects to direct the photography of his pictures is regarded with

EVEN the rain scenes in "I Confess" are real. Here director Hitchcock and camera crew sheltered by large umbrellas film a scene in which a young couple on a holiday are caught in a storm.

ONE of the tougher scenes to light was a street exterior in which a full block of a Quebec street was lit by placing large studio lights atop buildings and in doorways. This is only scene in picture where overhead lighting was used.
Is Important To Hitchcock

To him, the camera is the story teller, the star performer on the set, according to Robert Burks, ASC, who filmed Alfred Hitchcock's "I Confess."

By HILDA BLACK

more than ordinary importance, too, and is afforded every consideration in the planning and execution of the camera work. Robert Burks, ASC, who turned in such a magnificent job of black-and-white photography on "Strangers On A Train," Hitchcock's previous Warner Brothers production, was again chosen by Hitchcock to take the photographic helm in the production, "I Confess," Hitchcock's latest for the same studio.

"Hitch knows exactly what he wants," explains Burks. "There is no hit and miss with him. He makes a sketch continuity, story-board fashion, of the entire picture, and every morning on the set hands his cameraman a small folder with the day's scenes sketched out. Frequently, too, he makes a rapid-fire drawing in thirty seconds and asks if a certain scene can be done in that particular way.

"But he never nails you down to those sketches. If, after discussion, Hitch finds that we can achieve better results in another way, he has no hesitancy in rewriting the action or dialogue. Unlike many directors who set every scene as for a legitimate stage production and then almost defy you to get a shot, Hitch thinks of the set in relation to the camera."

Because "I Confess" was to be photographed in Quebec, in natural locales, long before production started Burks and Hitchcock screened a number of pictures in search of an authentic, realistic style of pictorial interpretation. Documentaries were given particular attention, as were films photographed almost entirely in actual locations. The study, however, was unproductive; none of the pictures possessed the authenticity and realism he sought—but it shows to what extent Hitchcock will go in order to find an idea, a key to a particular pattern that will make his pictures dramatically different.

Hitchcock rejected most of the "location" shots in the films as "phony and artificial," made so because they were produced in the studio. The contrasts were glaring.

"Why?" Hitchcock wanted to know. Breaking it down, Burks came to the conclusion that it is not any one particular facet of picture-making that makes one film look real and another artificial. It is a combination, he believes, of many things such as lighting, makeup, wardrobe.

"In order to get the authentic quality without erring in the other direction and becoming 'newsreely' we decided on some drastic changes," says Burks. "Ours became a struggle, not for perfection in the accepted Hollywood sense, but for realism.

"We were well aware that a company on location works under many handicaps—some of them severe. Difficulties that might assume major proportions on a sound stage have to be solved quickly and with a small crew when away from Hollywood. We decided that, since we would have to work under such handicaps on location, we would also impose the same restrictions on ourselves when we returned to the studio.

"For one thing, we knew that we would have to contend with ceilings in filming location interiors. There would be no parallels, no lights "up high," no backlighting. So if we hoped to establish and sustain the stamp of authenticity we would have to keep our lighting uniform, that we would have to hide lights behind chairs or under desks. We therefore decided to use no overhead or backlighting whatsoever, except where they naturally occurred. Throughout the picture, all lighting was from the floor. That, in itself, presented quite a problem. It slowed us down for one thing but it did assist in capturing the proper mood. And despite the numerous handicaps, we still brought the picture in under budget."

No attempt was made "to dress" up the sets on these location interiors. Doors and woodwork with shiny surfaces were allowed to remain that way and not dulled down as they would have been ordinarily in an effort to reach a high degree of perfection.

With the exception of three interiors, the entire picture was filmed in Quebec. Hitchcock selected this Canadian city (Continued on Page 546)
Joseph Brun planned a starkly realistic camera treatment for Louis de Rochemont's "Martin Luther," but failed to reckon with inadequate equipment and an untrained crew. Here he tells how these problems were resolved on his recent

Assignment in Germany

By JOSEPH BRUN, ASC

“This is it, the 'Martin Luther' story,” said Lothar Wolf, production manager for Louis de Rochemont, who had called me to his office to discuss the photography of de Rochemont’s latest film. “It is to be photographed in Germany,” Wolf continued, “in locales where the original action took place in the 16th century. You know de Rochemont’s approach. He wants realism. It is to be photographed in your usual manner.”

Later in the day, while making an insert shot of a glamorized can of peas for a commercial, I fell to dreaming about this new feature assignment. The director squinted through the camera finder and exclaimed, “It’s like a painting!” But Lothar Wolf’s words still were ringing in my ears: “... to be photographed in your usual manner.”

Nor did I want to photograph “Martin Luther” in any ordinary manner. My style had been determined by the nature of the subject, and narrowed by operational difficulties. I thought of my other assignments before this: “Savage Splendor,” a feature-length picture in color shot entirely in Africa with a hand-held camera. I remembered begging for just one high-intensity arc when shooting “The Whistle At Eaton Falls,” and shooting “Walk East On Beacon” with only two 150-amp HI arcs and with so few additional lights that many another cameraman would have shuddered at the
thought of undertaking such an assignment.

But perhaps I gained considerably from working under such adverse conditions. I think that every foot of film a cameraman shoots increases his knowledge of cinematography whether the subject is realistic drama, a soapy melodrama, or a commercial extolling the merits of a can of soup or a deodorant.

Wolf, when discussing the new assignment with me, had suggested that perhaps I might find much in pictorial inspiration for the production through reading a number of published biographies on Martin Luther, and by studying the illustrations. This I did. One dominant idea took root in my mind—I was going to picture the life of Martin Luther with brutal realism. I would definitely avoid all the veneer of artificiality and convention, the cellophane wrapping, the sweetness and fiction too often applied to contemporary films.

Here was to be a photographic treatment that would enable audiences to transpose themselves back into centuries of the past and become a part of the drama of that day.

I felt I did not want to make this a "picture of photography," but to treat it with humility. I had not the presumptuous desire to paint with light; cinematography is a medium in itself—the result of emotions, sensations and skill. But it is not the content of the picture, the either. It only the texture—the vehicle to taste and significance. It offers only a primitive plasticity; but we sense in it the elements of a great artistic adventure.

With these uncompromising decisions in mind, I landed in Frankfort, Germany, last August. There I met our director, Irving Pichel, and conveyed to him my photographic aspirations for this assignment. He told me of his own interpretation of the subject. Our evaluations were markedly similar, and we immediately reached harmonious agreement.

Together we scouted locations, and here I began to realize for the first time the tremendous scope of the enterprise. I would have to illuminate huge naves in ancient churches, unending corridors in monasteries, immense halls by day and by night; night exteriors with snow on the ground—each set a cameraman's trap! The studio sets were to cover areas much larger than I had ever before lighted.

At the Afifa Studios in Weisbaden, I met "my men"—the operative cameraman and his two assistants, the gaffer, and his crew, and the grips and the painters. All were extremely young and eager but admittedly not experienced. By contrast the editor, set designer, sound technician, makeup man, miniature artist, and costumer all were thoroughly skilled, having worked at the UFA studio in Berlin before and during World War II. Cursory inspection of the available lighting equipment showed it to be obsolete and in doubtful operating condition. So there I was with that awful sensation of loneliness that had enveloped me before when faced with similar conditions.

I decided to share my work with the crews—to give them a substantial part of the responsibilities and to make them fully conscious of it. I told them: "Be the photographer with me."

I had brought along with me my own Eclair Came "300" reflex studio camera, which I consider the most modern and rational camera ever built. Its reflex viewing system, which enables the operator to see the action through the taking lens as the scene is being photographed, makes all other viewing systems obsolete. Here there is no parallax problem. The operator no longer has to rely on the dexterity of his assistant nor of his interpretation of focus. There is practically no loss of clarity induced by shutter interference while the camera is running.

The shutter is adjustable and opens up to 180°. Focus control for all lenses is made from the outside at three convenient and different points. The finder eyepiece is adjustable within a complete circle, enabling the cameraman to operate (Continued on Page 553)
SKYLIGHTS—eight of them—augmented by strong directional lighting from arcs situated above and to right of camera position, supplied major portion of illumination for this and other sets for MGM's "Julius Caesar," photographed by Joseph Ruttenberg, ASC, whose camera and crew are on parallel in background.

"Julius Caesar," which I recently completed photographing at Metro-Goldwyn-Mayer studios, marks the first time in Hollywood history perhaps that a feature production has been filmed almost entirely with overhead light. This black-and-white production, featuring Marlon Brando, James Mason, John Gielgud, Louis Calhern, Greer Garson and Deborah Kerr, is one of MGM's top-budget pictures for 1952. From the standpoint of set lighting, it establishes a technical milestone.

What made it possible to photograph ninety percent of this production with overhead light alone, was the recently-developed Skylight, a "shadowless" set lighting unit developed jointly by MGM's executive director of photography John Arnold, ASC, and the Motion Picture Research Council, Inc.

From the numerous tests conducted with the Skylight at MGM, it was found that its reflected incandescent light more closely approximates the quality of the north light favored by the portrait photographer.

"Julius Caesar," with its many huge exterior sets, was ideally suited to the type of lighting produced by Skylights augmented by other overhead units for directional light. In fact it might be said the production demanded it, inasmuch as almost all of the action takes place on outdoor sets, all of which were constructed indoors on MGM's sound stages.

Daylight consists of strong directional light from the sun plus the soft light reflected from the sky. For the first time, perhaps, this same light quality, having such realism that few can distinguish it from real daylight in the photographed result, has been achieved on a motion picture set.

Whenever we shoot exterior sequences out-of-doors, the photographic light is provided almost entirely by the sun, and our task is simply to control the light in an effective manner. But when we move indoors to shoot, we are then confronted with the problem of lighting, and we must work with units of artificial illumination.

Heretofore, any attempt to reproduce an effect of genuine daylight illumination indoors on the sound stage has not been altogether successful, although such efforts have been generally accepted. But the use of strong lights on the floor, even when diffused, simply cannot give the desired illusion of daylight. A multiplicity of light units on the floor throw a multitude of shadows which are almost impossible to conceal entirely. Moreover, floor lamps mean a troublesome web of cables on the floor, and this condition on the huge

Overhead Lighting For Overall Set Illumination

New lighting technique achieves quality of real daylight.

By JOSEPH RUTTENBERG, ASC

CLOSEUP VIEW of new Skylight which provides soft, "shadowless" reflected light for motion picture set illumination. Skylight, which uses ten 1000-watt incandescent globes, was developed jointly by MGM's John Arnold, ASC, and the Motion Picture Research Council.
“Caesar” sets would have greatly hindered our camera work.

Our aim, then, was to place all our lighting units overhead, first to produce a quality of daylight coming from the only logical direction—the sky—and to give us a relatively clear floor on which to work. There were other considerations, too—most important perhaps was the fact we required enough light volume at all times to enable us to stop down the lens and thus obtain a maximum of depth of focus.

The typical pattern of lighting for the “Caesar” sets consisted of six to eight Skylights suspended high above each set, with arcs rigged high and ringing the set to supply the strong directional illumination of sunlight.

In the photographic result, the illusion of real daylight is admittedly far superior to anything accomplished to date by other lighting methods. People in groups are not lost in heavy shadows—the Skylight illumination takes care of this; and the directional lighting from the arcs gives the outdoor scenes additional authenticity.

Now this is not to say that no lights ever were used from floor level. Occasionally I used a Senior on a parallel for closeups, where strong directional sunlight effect was desired, and invariably there was a Coed fill light on front of the camera also for closeups.

In “Julius Caesar” we had a wide range of time to portray through lighting, from early morning dawn to evening dusk. In lighting sets for an early morning scene or a foggy, overcast day, diffused light is normally used to provide the major portion of set illumination. For this the Skylights were ideal.

We photographed a great many “mob” scenes in which hundreds of people appeared on the sets. Here, the soft, shadowless illumination from the overhead Skylights plus the directional light from the arcs gave us a most realistic effect of natural daylight. To have lit these scenes from the floor with the great number of arcs and other units that would have been necessary would not have produced the light quality we desired, and would have involved a great deal of time and effort in placing and adjusting filters and scrims on the lamps in an effort to reduce shadows to a minimum.

With six or eight Skylights suspended from the catwalks overhead, the sets were bright as day, and the illumination was perhaps as close to real daylight in quality as it is possible to get with any known set lighting equipment. The effect recalled the days when we used to light motion picture sets with banks of the old Cooper-Hewitt mercury lamps; but Skylight illumination far surpasses anything achieved in the old days with Cooper-Hewitts.

Noteworthy, too, is the fact fewer changes in lighting were required whenever we moved the camera from a long shot position to one for a medium or closeup shot. For dolly shots, Skylight illumination is the answer to a cameraman’s prayer. We can move about the set and need worry hardly at all about annoying shadows that so often plague us when executing similar shots with other types of lighting.

I would estimate that as a result of using the Skylights, the nearly 50 percent production time normally spent in lighting a set was substantially reduced, and at the same time our overall picture quality was vastly improved. Besides improving the general quality of lighting for the “Julius Caesar” sets, the Skylights proved cheaper to operate and less costly to rig than many of the conventional and heavier single lamps normally used for set lighting. The great amount of scrimming and goboing ordinarily required was eliminated almost entirely.

The Skylight units are pictured in use in the accompanying photographs, which were made during the filming of “Julius Caesar.” The unit, made of corrugated aluminum, consists of a rectangular hood- or box-shaped reflector about 4’ x 6’ in size, which has a depth of about 20 inches at the crown. Each unit has ten 1000-watt silver bowl incandescent lamps arranged in two rows. Each lamp, which has a rated life of 1000 hours, can be individually controlled from the switching panel on the floor. Usually, however, they are controlled in pairs. Thus, the light level of each Skylight can be controlled from the set, without need for a gaffer to service it overhead. In addition to the range of lighting afforded by this control of the lamps, we are able to gain additional range and flexibility of the illumination by raising or lowering the Skylights.

Following the success achieved with overhead illumination on this production, I am now preparing to make extensive tests in which all scenes will be photographed with Skylight illumination alone, and without any supplementary lighting from the floor. I think there is an opportunity to develop an entirely new and pleasing pictorial quality in photography, now that we have a thoroughly proven source of “Shadowless” light in the new Skylight units.
DESPITE reports to contrary, Indian women generally may be photographed when proper arrangements are made through native guide or interpreter.

VELA KALI, a mass warrior dance performed in Hindu temples in Travancore-Cochin, was successfully photographed by a non-Hindu visitor through the aid of a local amateur cinematographer. (All photos above reproduced from 16mm films by author.)

No matter how experienced and expert the cinematographer, there are always problems which he meets when photographing in a strange, foreign land for the first time. This is particularly true of travelling amateur movie makers, and documentary, short-subject and lecture filmers, most of whom take their pictures with 16mm cameras, unaided by assistants.

In this respect I have noted with interest the comments of Ed Olsen who related his filming experiences in India in his article, "Filming Travelogues In 16mm Color," in the April, 1952, issue of American Cinematographer. Olsen wrote that on arriving in India, he found the situation quite different (from that prevailing in the country he had just left). "The people were friendly, often a little too inquisitive," Olsen said. "The innate curiosity of the men and small boys often made camera work difficult. The women on the other hand stayed out of camera range. Indian women are not permitted to look at a camera . . . ."

This view of the photographer obviously is based on what he had observed in some outlandish village, where the women live under "purdah." It could deter some other cameraman from attempting to film movies in India, which is entirely unnecessary.

During the fourteen years that I have been Director of Information in Travancore-Cochin, considered India's most progressive state, I have had the privilege of personally escorting through India many professional cinematographers from the United States, assisting them to get desirable footage.

Whatever may have been the attitude of the mass of Indians prior to August, 1947, when Britain's rule of India ceased, today the presence of a white man here does not evoke either curiosity or suspicion generally. I would go a step further and add that the American, whose endearing trait is the informality of his manners, is regarded as a friend wherever he goes in India. This does not mean, however, that groups of people will not look around to see what he is doing. (I had a similar experience years ago when my wife and I visited a European city, when her richly embroidered silk saree, evoked some attention, and a politely enterprising photographer assisted her in unbuttoning her heavy overcoat in order to picture the saree to maximum advantage.)

It is the unanimous opinion of all cinematographers whom I have contacted in India, that the friendly cooperation and assistance of some native Indian amateur cinematographer is invaluable in getting good motion pictures of India and her people. A competent guide can be helpful in showing the visitor the places of interest, but a native amateur cinema-
The Officers and Staff of W. J. GERMAN, INC. extend to ALL CINEMATOGRAPHERS Everywhere —

HOLIDAY GREETINGS and GOOD WILL For The Christmas Season and The New Year —
EXAMPLE of how Video Films makes semi-animated effects at little cost. Station identification (8-10 second) spot was made by first recording sound effect of train on film, then backwinding film and revolving background drum, shooting it at 24fps. Stream of compressed air bobbed train up and down. Spot was ready for air after processing and editing.

THE SAME 70-DA Filmo company used to make its first Video Films still proves useful for many assignments such as this shot for series of spots for Air Force. Camera is ideal for filming take-offs and air-to-air scenes.

LOCATION interior for political spot announcement. Limited power supply in such locations makes Colortron lights indispensable. Extra mike is for tape recorder that makes track for editing of interviews.

Techniques For TV Commercials

TV spots demand the best of film production methods. Here's how Video Films turns out commercials for some of Detroit's leading television program sponsors.

By WILLIAM R. WITHERELL, JR.
Director, Detroit Television Council

IN THE SIX YEARS since television left the laboratory stage and rapidly became a major entertainment medium, one element of the complexity that is television, the TV film commercial, has attracted a growing amount of attention and interest among the members of the motion picture profession.

Back in 1946, there were four principal sources for the film material used by early TV advertisers: many big sponsors made use of sections of industrials already produced; others turned to the film companies that regularly made their industrials.

Another source of film spot material for national accounts proved to be the theatre ad trailer. Already produced with good advertising showmanship, the running time of the theatre trailer was such that it could be put on the air with virtually no trimming.

An unexpected source turned out to be the stations themselves. Many advertisers were far from convinced that TV was here to stay. To attract these doubting Thomases, some stations would offer one simple 60-second film free or at cost with each thirteen-week time purchase.

Except for the station, the regional and local advertisers, unlike the national advertisers, had virtually no place to turn. They had no backlog of industrials, no theatre trailers and they couldn't afford the services of the big industrial producers. This gap was quickly filled by a fifth source: hundreds of small, independent motion picture concerns that were formed almost overnight to produce films for television advertising. Today, the relatively few that survived the ensuing years probably turn out the majority of the commercials you see. Video Films is, in history, methods, growth and future prospects, typical of many of these intruders on the motion picture scene.

Video Films was started in Detroit in 1947 by Clifford Hanna, then recently returned from the Pacific where he had photographed Air Force combat and ground activities and had worked with Australian studios to complete his films. A local sponsor, the Detroit Edison Company, responded to Hanna's suggestions for a film commercial. Hanna took the pictures, the footage was cut by a local editing service and shortly thereafter, Video Films' first commercial went on the air.
Our first films were made with a Bell & Howell 70DA, a tripod, an exposure meter and three mushroom photofloods. We had no studio whatsoever. Interiors were shot in any convenient living room, bathroom or kitchen. We made our first dolly shot by placing our tripod on an inverted cardtable and pulling it over a carpet with a piece of clothesline. Today, we own what would be considered a minimum of production equipment by West coast standards. When anything additional is demanded, we rent it. By the same token, our permanent staff is quite small, but this we easily augment for specific occasions.

We certainly make no claim to being experts, but we have arrived at some methods and procedures that might be of interest.

For raw stock we prefer the regular Eastman Super X 16mm Reversal except when shooting 35mm. The use of reversal and the duplicate negative method of making release prints allows for effects and, equally important, gives us a standard emulsion-up 16mm print which cuts in, at the stations, with 35mm program reduction prints. Also, we have found that reversal original can take a lot of punishment and not show it. This handling factor is important because we usually edit the original footage...no master positives, no master negatives, no workprint. We commit this original sin for two reasons. The first: a good part of the editing is done in the planning stage. We know almost exactly how long each scene will run and what effects will be used before we shoot. Secondly, we cannot afford the time or the duplication of effort that a workprint necessitates.

It is no more than a coincidence, but it was nevertheless reassuring, to discover on a visit to Rochester, that Eastman, after months of experimenting with excellent closed-circuit facilities, had just chosen to recommend the same basic lighting set ups for TV films that we had settled on a few days previous. While I was there, I was privileged to see their excellent booklet The Use of Motion Picture Films in Television, before it went to press. And since Eastman has published its findings, it's no longer a secret that almost flat front lighting, with only the slightest difference between key and fill lights, coupled with overly-strong backlighting gives a very good final image on the tube. It is a very definite rule with us to keep contrasts quiet. The tube has a way of manufacturing its own contrast, particularly where extremes are adjacent. Similarly, the tube is very unkind to dark areas at the bottom and right edge of the picture.

(Continued on Page 540)
How To Make Movies That Tell A Story

There should be a definite story idea for every picture, whether it is a playlet, a vacation or travel documentary, or a chapter in the movie record of the family.

By JOHN FORBES

Ever wonder why that film you entered in a contest failed to win an award? Well, the chances are it lacked good story form, or continuity.

Good photography in itself does not necessarily make a good motion picture. The individual scenes must be strung together in an attractive continuity pattern to tell a story or relate a fact—just as these words, forming a sentence and then a paragraph, make a complete statement.

Unfortunately continuity has not been regarded by movie amateurs with the importance it deserves. But it is the very essence of motion picture construction. It is the method of arranging scenes and titles so that a continuous audience interest flows through the entire picture. It makes entertainment out of a number of assorted shots, which would be of limited interest by themselves, unsupported by complementing shots.

Continuity—let it be said for the benefit of the uninitiated—is essential to films of every classification: family movies, documentaries, vacation and travel movies, as well as fictional or dramatic compositions. The basic mechanical construction of continuity for amateur films usually follows this pattern: an introductory long shot for establishing locale; medium shot of characters or important subjects; and complementary medium, close and close-up shots to round out the continuity or narrative pattern.

A sequence, which is a segment of the overall continuity or story, and which pictures the complete development of one idea or incident in the story, is likened to a chapter in a book. Put it in its proper order along with the rest of the sequences, and it does its part to complete the story into a well-knit and easily understood pictorial composition.

Now this is not to say that you can go out with your camera and a supply of film and shoot at random without any prepared plan, then come to your editing board and, by splicing the various scenes into a certain pattern, come up with an interesting picture. The scenes must have been shot according to a plan—according to the manner in which they are to piece together to form a complete story. Here, then, is one of the first tricks the amateur movie maker should learn—"cut" your movie in the camera. By doing this you will accomplish two essential things: 1) you'll ensure getting the shots, of the required length, that will be useful when it comes to editing; and 2), you'll save yourself a lot of time at the editing board in analyzing shots and trimming them to the desired length.

The visual content of the film as a whole is what you should be concerned with when making every shot. Scenes must follow each other in a manner that makes for smooth and understandable presentation of the subject. Therefore, every scene must be considered not only for its own value, but its relationship to the scene preceding and the scene following it. If, for instance, you shoot a scene of your son or daughter eating an ice cream cone, then follow it immediately with a shot at a later date, perhaps showing the child riding a pony, the continuity here obviously is poor. Your audience will accept the film for what it is—a collection of unedited "snapshots." Missed will be all the interconnecting shots you should have made (had you planned your filming as a continuity) that would picture the child's activity between eating the cone and riding the pony as a complete (Continued on Page 549)
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Tempo Puts The 'Move' In Movies

This professional technique should be mastered by every serious movie amateur; it begins with the photography and ends with the final editing of every worthwhile motion picture.

By A. D. ROE

Tempo is a somewhat elusive tangible of movie making which the advanced amateur encounters as soon as he sets out to produce a serious film. By “serious” we mean a continuity production, differing from the usual family or home movie film. Tempo then becomes something to consider seriously, because it has to do with the over-all effectiveness of your picture. We often see pictures based on interesting subject matter or narratives, but they fail to “click” on the screen; they move too slowly; take two reels to tell what easily could have been told with one; and in the main they suffer because the pace of the action is not controlled for the best visual effect.

In the abstract, cinematic tempo is founded on a combination of two factors: the actual dynamic content of a scene, and the length of time that a scene is on the screen. Control these and you control tempo, also film quality.

In the concrete, tempo depends upon a combination of three familiar and tangible things: first, but by no means of greatest importance, the actual rate at which the object photographed moves; second, its proximity to the camera; and, third, the angle at which it moves in relation to the camera.

By varying the combination of these three factors, we can accelerate or retard tempo of almost any photographed movement.

The most elementary application of tempo in motion picture construction is something that everyone who has gotten past the kindergarten stage of movie making should know. It is that any moving object appears to move faster in proportion, the closer the camera is to it when it's photographed.

There’s an easy way to prove this by taking your camera and going out and photographing two different scenes, then, studying the results on your movie screen. First make an extreme long shot of some familiar moving object you know is moving at a high rate of speed. Then make an extreme closeup of some object that is moving slowly. A suggestion as to the most productive test subject would be railroad trains; they’re probably available in your locality after a short drive, and you can be pretty sure of finding both fast and slow trains necessary for the suggested test.

First make your long shot—a really long shot—of an express passenger train, with your camera so far back that you not only show the whole train but give it sufficient room in the frame that it will require several feet of film to record it passing through the scene. Then drive to the railroad yards and shoot your extreme closeup of a switch.
engine slowly clanking past—a shot where the engine fills the screen.

After the film is processed, screen the two scenes and compare them. You will find that the express train, which you photographed while it was travelling upwards of 60 miles an hour, appears to be moving rather slowly. The switch engine, on the other hand, crawling along at perhaps ten or fifteen miles per hour, will appear to be travelling much faster. This experiment will demonstrate how placement of the camera can affect the rate of movement of a subject on the screen, regardless of its actual rate of travel as it was filmed. It will demonstrate how, by placing your camera properly with relation to the moving subject, you can step up or slow down the pace of the action in a scene, depending upon the dramatic effect you wish to achieve.

After this demonstration, and you still are experimentally-minded, make a few additional shots to determine what effect camera angles have on tempo. Shoot the test subject—one which you know will be moving at a relatively constant speed throughout all test takes—the express train would be ideal—or use an automobile. Shoot long shots, medium shots and closeups of the moving subject as it travels: 1) directly across the frame, 2) diagonally toward the camera, and 3) directly into the camera.

In the first series of tests, you will discover that long shots invariably give the impression of slowest movement, while action in closeups appears to be the fastest.

In the second series you will find that the shots showing movement directly across the screen and the extreme closeup of the object moving directly toward the camera give the illusion of fastest movement, while all other angles produce the illusion of progressively slower tempo.

By studying all of these shots on the screen, it will be seen that the apparent speed of any movement will appear to increase as the footage of the scene—that is the length of time it is on the screen—decreases.

As a result of these tests, it will be seen that we have three basic rules to follow for making any movement on the screen appear in rapid tempo: first, show it in closeup; second, show it from a dynamic camera angle—one that accentuates its movements within the frame; and third, keep duration of the action on the screen short.

Once the cine cameraist understands these basic rules, he can put them to work to his advantage when filming any type action. For example, suppose you wish to contrast the movement of one man who is walking along calmly, with that of another who is running (Continued on Page 539).

**New Eastman Kodak Brownie Movie Projector**

The Brownie Movie Projector, a new inexpensive 8mm projector for home movies, was unveiled last month by the Eastman Kodak Company. The new projector is designed to provide high-quality projected images and to feature maximum simplicity of operation.

The new Brownie features a new type of “floating-power” control. A single knob can be positioned for either forward projection, “stills,” reverse projection, or motor rewind. Designed as an ideal team mate for the Brownie 8mm Movie Camera, the projector is said to be the world’s easiest projector to use.

The Brownie has a nylon carrying handle on top and is fitted with a removable cover on one side which is held by two simple spring catches. The cover can be snapped on, or lifted off, in a second.

To simplify threading, an easily followed film path is printed on the plate behind the sprockets. Sprockets are indirectly illuminated so that the projector can be threaded in the dark. In threading, it is not necessary to engage the film with a pull-down claw behind the film gate.

Focusing is controlled by a finger-tip focusing lever. A self-locking tilting knob permits quick and positive screen centering. A power fan with adequate ventilating louvers assures cool projection. An important feature are oil-impregnated nylon gears which are lubricated for life. It is not necessary to oil this projector at any time.

The Brownie is expected to begin reaching dealers’ shelves in time for Christmas. However, it is possible that supplies may be insufficient, at first, to meet demand. To meet such emergency, the company has also announced a “Brownie Gift Certificate” plan. This will enable dealers to supply Brownie Gift Certificates for Christmas-giving and providing for delivery of Brownie projectors after Christmas.

The Brownie Movie Projector is priced at $62.50 and sells complete with a 30” wide projection screen for $67.

**Tips On Christmas Movie Making**

Planning to make Christmas movies this year? There are dozens of helpful ideas for you in “Tips On Christmas Movie Making,” latest of the famous “Tips” booklets published by Bell & Howell Company. Copies may be had at most photographic dealers. The cost? A mere nickel!

All kinds of things happen at Christmas time, and you’ll want to record on film what goes on at your house. A little planning now will assure you of a lot of enjoyment later. First make a list of special events to take place and check those you will want to film. Many scenes can be done before Christmas and will furnish the background for your Christmas morning shots around the tree.

Whether you shoot in color or black-and-white, you’ll need extra indoor lighting. “Tips” describes the best methods to use.
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GEORGE STEVENS
makes a pitch
From Lerpae to Jackman to Chance

Reprinted from The Hollywood Reporter 22nd Annual Issue

BACK in 1928 when I was working on a camera, rather than trying to worry performances out of players, my director and particular hero was Fred Jackman.

In those days Fred was known as the best trick photographer in the business. Some of his greatest work was on the Mack Sennett comedies, which abounded with camera tricks, chases and illusions. His work in these paved the way for many things that are now common.

Another of his notable contributions was the trick camera work in “The Lost World.” He was the star of that picture. Later, his artistry cropped up again in the beautiful imagery of “Noah’s Ark.” Much of the trick photography in those days was done right in the cameras, with cut-outs, special effects, etc. Today optical printing is a big and important part of any studio—its own department.

After producing and directing for many years, Fred returned to his first love, which was trick photography, and I nearly became one of his disciples.

My interest in optical printing stems from my own pet theory that in the motion picture there is nothing more important than the relationship of images. Skillful optical work allows related images to be shown on the same picture frame. It permits a flow, a unity and furnishes a framework for the weaving of a story.

Hollywood has a number of brilliant optical men. If they haven’t saved many a movie, they’ve at least helped save them. They are perhaps the industry’s least appreciated and most unsung heroes.

Just as most players have their favorite cameramen, I have my favorite optical man. He is Paul Lerpae, of Paramount.

Paul was responsible for much of the visual imagery in “A Place in the Sun,” and he has done some extraordinary work for me in Technicolor on “Shane,” starring Alan Ladd, Jean Arthur and Van Heflin. Paul so far has been able to do anything for me that I have asked of him. He has met every challenge in the book.

When working on a film, I like to think in lucid, free-wheeling terms. Paul makes that possible. When a scene “stops” on me, and I don’t want it to stop, I call in Paul. He puts it into just the movement necessary to keep things going.

If we have only six feet of film where we need nine, Paul arrives with his magic. He prints three feet forward, then three feet backward; juggles, snaps, works a bit of his art, and all of a sudden we have our nine feet.

He puts people into scenes in which they were never originally shot, and removes others from scenes where we decided, belatedly, we didn’t want them after all. Paul Lerpae can do anything any Monday-morning-quarterback-director asks of him. I know. He’s done it for this one.

During the shooting of “Shane,” we did a killing scene which called for half-dark, eerie lighting. We shot it on a stormy day, and were getting just the effect we wanted when, all of a sudden, the sun came out. At first we stopped shooting, but knowing that Lerpae would save the day somehow, we rolled again, although the sun came out intermittently. I was right about Lerpae.

Studying the footage, he ran it to the point where the sun came out. Then he back-printed it to where it was shadowy again. At this point we could cut to a close-up shot in shadows, so it would match up.

Lerpae gave us a beautiful effect at the close of the picture—a visionary thing where Shane rides off into the mountains at the finish and appears, through optical printing, to be in the thoughts of the little boy, Brandon de Wilde. It’s all Lerpae, and a couple of yards wide.

Trick photography and optical printing, and the good men who do it, represent one of the most unsung and important aspects of the facilities that make our movies superior. And, in spite of the title play on the old baseball phrase, when these men take over a job there is nothing left to Chance.

REGISTRATION of nearly 900 members and guests during the SMPTE’s 72nd Semi-Annual Convention in Washington in October, surpassed attendance records of all previous conventions. Seventeen sessions were held and a total of 94 technical papers and reports were presented covering latest advances in virtually every field of motion picture and television engineering.
TEMPO

(Continued from Page 537)

excitedly. The first man would be photographed at a distance in a series of long shots, and from angles that would minimize his apparent motion within the frame. The second man would be filmed in closer shots and from angles that would tend to emphasize his movement. Also, the shots of the first man would be lengthier, while those of the latter would be of short duration.

Now, if the desire is to build up the contrast between these two extreme tempos of action, this can be accomplished by intercutting the scenes—switching from one subject to the other, alternately. To build up the tempo of the running man's scenes, the proper way would be to begin with moderately distant shots, of fairly long footage, and then with each succeeding cut, use closer shots of shorter screen duration—until perhaps when the man arrived at his goal you would climax the tempo build-up with just the shortest of "flash" cuts, only a few frames in length, of the man's face as he rushes directly into the camera and ending with his face in a big, screen-filling closeup.

In contrasting these movements, the runner can be made to appear pursuing the walking man, or to be dashing away from him. This, of course, would be simply a matter of keeping their respective directions of movement on the screen continuous. If one is to pursue the other, both should move across the screen in the same direction; if they are to appear moving oppositely, they should be so filmed and edited accordingly.

Another point worth remembering in connection with tempo is that much of the power of the cinema lies in suggestion. It isn't necessary to show everything as long as the action is suggested or implied.

For instance, where it is desired to show a person entering a room and crossing over to talk to someone on the other side, it is unnecessary to waste a lot of film showing the complete action. After making a shot of him coming through the door, cut immediately to a shot of the second person greeting him. That's all that is necessary. You save film and at the same time the tempo of the scene is stepped up.

Similarly, attention to suggestion and tempo can bridge gaps in continuity. Suppose we wish to show a person travelling from Hollywood to New York. The trip itself isn't important; no important action is to take place during the trip; all we need to show or imply is that the man starts out and arrives
at his destination. A typical treatment would be to show the man closing his suitcase after packing it and starting for the door, followed by quick shots of him buying his plane ticket, passing through the airport gate, as the camera swings to the sign indicating the plane’s destination. Here we make a lap-disolve or, better perhaps, a fade-out followed by a fadein of the New York skyline, (we use a stock shot for this, or shoot a still of the scene in our studio) then cut to the man unpacking his bag in his (New York) hotel room. Thus in five short scenes, we have pictured the man crossing the continent—five scenes which all could have been filmed in Hollywood where the journey started (or any other place).

And speaking of Hollywood, the pictures that are made there all are very good examples of the application of tempo, both in the photography and the cutting. Study them, for no other medium demonstrates so easily how tempo puts the “move” in movies.

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**TECHNIQUE FOR TV COMMERCIALS**

(Continued from Page 533)

frame. We keep these areas bright with lighting or light-colored props. We are currently using a large percentage of light from ceiling or pipe fixtures which correspond with the position of lights in most TV studios. This, we tell ourselves, will make less noticeable the ratio between sunlight and shadow. In many cases, we will use the sun as our backlights and reflectors or boosters as our key and fill. Outdoors or in, we virtually never use diffusion devices of any sort. TV does its own diffusion all too well.

Backgrounds are tremendously important. We are constantly trying to outwit what engineers refer to as “horizontal smear,” an evil resulting from the scanning direction of television systems. We have found that a preponderance of vertical lines reduces this smear effect considerably and that any pattern is better than none. One of our favorite “cookies” for small objects, is a wire refrigerator rack. Window patterns are also very successful.

Essentially, the TV photographer is up against somewhat the same problems as his newspaper or publication counterpart. Both have their pictures finally presented by means of an intervening mechanical step. The TV mosaic is not

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**VIDEO FILMS, Detroit, designed this editing table especially for its own use in cutting TV advertising films. Features include magnetic film clips, leader film supply (6 kinds) available through slot-in table, viewing glass, sound reader with speaker, and electrically-heated film splicer in pull-out drawer.**
unlike the photo-engraver’s screen and photographers do best when they move in as close as possible and when they do not attempt to record an abundance of detail.

In shooting, we have to remember we have two different audiences: the client and/or agency people who usually view the spot on a projection screen and the home viewer who sees the same picture with a considerable portion of the frame cropped by transmission and reception. We try to fill these marginal areas with pleasant but unimportant picture matter.

We contract with United Sound Systems in Detroit for all our sound work in this area. We record all voice-over spots before shooting. This gives us an exact frame count for each scene, essential for animation and semi-animation, helpful on straight photography particularly where closely-cued movement is involved. Voice and sound effects are first mixed and recorded on tape then onto the track. We try to record above normal level; develop to a density as high as 2.5 so that the track area on the print can be as black as possible to minimize surface noise that sometimes results from rough handling of the prints at the stations.

Sync sound spots in the studio are recorded double system, directly on film in a separate recorder and also on protection tape. We have had good luck with an Ampex tape recorder with synchronous motor on location. In such a case, we will use clapboards at the beginning and end of a scene to determine later the exact amount of “creep.” This is rarely over 4 frames in 40 feet, and in the average spot, sync sound sequences are broken up by cuts and voice-over inserts and rarely run over 12 feet.

Recently, we have broken away from the taboo of the visible microphone. In our “sitting at the desk” spots, we use a table microphone in the scene for two reasons. The TV audience is thoroughly accustomed to seeing microphones in newscasts, panel shows and many other programs. It is no shock. Secondly, the additional voice “presence” gained is particularly important in an intimate medium like television and the consequent decrease in room noise, particularly on locations, is another step toward technically perfect recording. When you consider that approximately 90 percent of the stations use 16mm projectors, the sound mechanisms of which may leave something to be desired, anything that can be done to give prints the best possible sound quality and the highest allowable level heavily outweighs artistic considerations.

In the field of animation, for which there is a growing demand, we are now working with an animation technique that calls for very few cels, a number of
paper cut-outs and a vast amount of patience on the part of the operator. Whereas there is no saving in camera time over full animation because it's still a single-frame method, there is a tremendous saving in artwork. The eight spots we've completed that use this technique may lack fluidity, but they are a great step up from their predecessor, the spot made with static artwork and the zooming camera. This cut-out technique may well give full animation a real run for its money in the TV spot field.

Our editing is handled in a relatively standard manner, except for the omission of the workprint. Our editing desks are specially designed for short lengths. Many of the features of these desks, such as magnetic film clips and the surface slot with a constantly available supply of different leaders, are, as far as we know, original with Video Films. They do not make the difference between good spots and bad, but they do make handling our short epics a little easier.

Final printing and processing is done for us in New York by Precision Film Laboratories. Since we achieve our desired contrast ratio through lighting and exposure of the original film, we do not ask the lab to depart from its normal procedures. Our 35mm footage is processed by either DeLuxe in New York or General Film in Detroit.

Looking ahead, we believe the future holds many challenges, the greatest of which is the nightmare of shooting for color TV. We have made eight 60-second spots in color for a client who wants to have a backlog of spots when color TV goes commercial. We know, however, that there will be much for us to learn in the meanwhile. We suspect that very soft colors and very soft contrasts will be required on the release print because they will be strengthened by TV until they look somewhat like today's Kodachrome on the home screen. The present CBS mechanical system, for instance, overemphasizes red to a considerable degree. Correct backgrounds, lighting and processing are going to be even more important than in black & white TV. Disregarding the dangers of improper station panel settings which might easily turn golden butter a bilious blue-green, Video Films fears most the future client, who may remark after a closed circuit screening, "But my product isn't quite that color!"

In conclusion, it is evident that we have had to work and may always have to work without much of the fine technical equipment available to the major Hollywood producer. We will always have to race against the inflexible, quick deadline, which means high shooting ratios for self-protection, bypassing certain standard procedures, and much improvisation. Despite this, TV film methods bear watching. The days of the unlimited budget for even the biggest feature producer are waning. Many of the time and money-saving short cuts our industry has had to employ may prove helpful in lowering the costs of the bigger pictures.

Conversely, the products of our trade are being compared by the client and

### Versatile Towmotor Serves Film Producers

Proof that profitable uses for Towmotor fork lift trucks are not limited to industrial plants is emphasized by operations at Alexander Film Company, Colorado Springs, Colo. Day-in and day-out, this busy movie making organization keeps a Towmotor equally busy at dozens of varied jobs.

As illustrated, using Towmotor as a camera dolly facilitates high-angle shots and the taking of pictures going up or down. In the moving of scenery and equipment from set to set, the fork lift truck's speed and ease of maneuverability has proved highly advantageous for the Colorado studio. Other typical Towmotor motion picture production applications include raising and positioning heavy lights; stretching wire and rope wherever needed; all high rigger shots; loading and unloading heavy equipment; jacking-up cars in a hurry; and moving hard-to-handle flats on location. In between such handling tasks, the Towmotor serves as a scaffold for both painters and carpenters, and

replaces ladders for safer general stage maintenance work.
the viewer, consciously or subconsciously, to what they have seen on the big theatre screen. The eager amateur shutterbug, once "good enough for TV" has been generally displaced by the veteran photographer. It is high time that other members of the motion picture profession take their proper places in the making of TV film spots.

It is no longer excusable that important production planning be the province of recently promoted ad agency copywriters or the client's wife. Agency and client representatives are invaluable in the initial, overall strategy of a TV spot, but the execution of their thinking should be the responsibility of the producer, who should draw upon and utilize the techniques and skills of Hollywood. The Californians, in turn, need no longer belittle the TV spot. It is a distillation of much that is visually exciting in motion pictures and it is crystalizing into a surprisingly exact science, if not an art form. Furthermore, the TV spot, eight seconds or eighty, has solidified economically to a point where we can say with assurance that it is very definitely here to stay.

A truly remarkable improvement to the presentation of any silent film is achieved by the addition of music.

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CINE CAMERAIISTS EASE WAY FOR PROFESSIONALS
(Continued from Page 530)

tographer, who understands a cameraman's problems and knows photography, can render enthusiastic service to those associated in an art which he himself values greatly. Invariably he takes unusual interest in the foreign cameraman's array of equipment, and is glad of the opportunity to talk photography with an expert who may be able to advise him on his own cinematographic problems.

Treat the amateur-cinematographer guide as your equal and your pal, and his services are yours for the asking. He will see that the many complex social problems are solved for you through his sympathetic handling.

Unlike in the United States, where almost every second person is an amateur movie maker, in India the hobby is still confined to a relatively small number of people among the well-to-do classes, the reason being that equipment and film stock are not plentiful, and what is available in the shops is sold at very high prices. It will probably surprise the reader to know that in the whole of India, there are probably only about 2,000 amateur cine cameras and less than 1,000 sub-standard film projectors in circulation.

Again, on this matter of getting movie shots of natives and native life, I wish to re-emphasize how local assistance can greatly aid the cinematographer, be he amateur or professional. He must learn to understand and handle the people whose customs admittedly are different than his. Properly approached, natives,

Film Explains Recording

A NEW FULL-COLOR SOUND film entitled "You Are The Producer," explains how educators, industrial training, sales and promotion specialists, and amateur home movie makers can now record their own commentary or sound on 16mm films at nominal expense and without laboratory processing.

Just released by the Engineering Products Department of the RCA Victor Division, Radio Corporation of America, the 12-minute motion picture features RCA's "400" magnetic recorder-projector, first machine to permit wide employment of magnetic recording on 16mm films.

An interesting dramatic sequence presents all the unique features of the equipment which enable it to record on magnetic track, play back, erase, re-record, reproduce both optical and magnetic track, operate at sound or silent speed, project top-quality pictures, and operate as a public address system.
women as well as men, gladly consent to
appear in pictures for visitors.

Not long ago I accompanied an Amer¬
ican friend on a tour of my home State.
Travelling along a dusty road, my com¬
panion espied a village belle drawing
water from a well. Her bright attire, the
burnished brass vessel she held, and her
own graceful form set against a back¬
ground of dull green foliage presented
a pictorial composition which any mast¬
er artist would have loved to paint. And
it was certainly a picture my companion
wanted to capture on film. After she
was assured of the good intentions of
my friend she willing posed and with
a smile performed the act of drawing
water from the well as he trained his
camera on her.

On another occasion we encountered
a group of bright-eyed college girls.
They surrounded my cinematographer
friend and cracked jokes as they watch¬
ed him set up his camera on a tripod.
They would not let him shoot, however,
until he answered their questions. They
asked about Cecil B. deMille, Charlie
Chaplin, Elizabeth Taylor and a host of
others. There was much laughter, all the
while their confidence was slowly being
won. Finally they gladly enacted a se¬
quence for the photographer which, ad¬
mittedly he probably could not have
accomplished working alone.

Some of the most difficult subjects for
the foreign cameraman to photograph,
of course, are those of a religious or
other nature occurring in areas from
which the foreigner is usually excluded.
Here, a native amateur cameraman can
be of immeasurable assistance, as in
the instance I'm about to describe.

A colorful festival was taking place
in a temple. The highlight was to be
the planting of a giant wooden pillar by
a 120-year-old elephant. Being a non-
Hindu, the American cameraman could
not be admitted to the temple to film
the festival himself. Here a local amateur
came to the rescue. Taking my friend's
Eyemo 35mm camera and exposure
meter, and carefully noting his instruc-
tions as to the kind of shots, camera
angles, etc., he wanted, the amateur went
into the temple and recorded the festival
on film to my friend's entire satisfaction.

The amateur gained from the experi-
ence, too, for he had used a professional
motion picture camera for the first time
and also had received some valuable
photographic advice from the man for
whom he performed the favor.

In still another instance, an American
professional was able to secure some
rare footage of a mass native war dance
through the cooperation of another local
amateur. This event was also performed
within a Hindu temple. I could relate
hundreds of other instances where local
amateur movie enthusiasts have assisted

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December, 1952 • American Cinematographer • 545
American cine camerists and professional cinematographers to secure motion pictures they could not have filmed themselves.

I should like to leave this thought with American cinematographers amateur or professional, planning to visit India to make pictures: the prospective visitor should first write in advance to his travel agents and ask them to put him in touch with some amateur cinematographer with whom he can arrange to assist him during his visit. Not only can he be sure of a warm welcome on because of its quaint Old World quality and its architecture of medieval flavor. The story, really, could have been placed in Los Angeles, San Francisco, New York, or any other city. It deals with a priest who has heard the confession of a murderer but who, due to the sanctity of The Confessional, is prevented from betraying the culprit even when the priest himself becomes suspect.

The film was made with the sanction of the Church which enabled the company to obtain interior shots never before screened. There is one scene, for instance, in which Montgomery Clift as the young priest, is ordained. The ceremony was actually staged in St. John's Cathedral, with Clift as the only actor. All others in the scene are priests and other church dignitaries. Much of the action takes place in the priest's Parish and for this St. Severin's was used, with the camera being moved into the rectory and elsewhere for day and night shots. This same adherence to realism carries throughout the picture.

The City of Quebec, in fact, furnished "sets" which, had they been built at the studio, would have cost an estimated two million dollars. In addition to the scenes made in St. John's Cathedral and St. Severin's, many other churches were likewise photographed. So was the House of Parliament, the Court House and Court Rooms. The Chateau Frontenac, where the company headquartered, was shot from practically every angle and in many rooms. The main ballroom, dining room, kitchens, pantries, bedrooms, corridors, lobby, and exteriors provided background for much of the story's action.

Not only were the buildings authentic as named, so, too, were the people. As a matter of fact, to further the factual quality there are only a few professional actors in the picture. Among these were Anne Baxter, Montgomery Clift, Carl Malden, Roger Dann, Brian Ahern, Dolly Haas and O. A. Hassa, the latter an actor brought over from Germany for his arrival, but also that he will have a competent and friendly interpreter, guide, and collaborator. Such an aide can be the visiting cameraman's guarantor to Indian society. He does not care for monetary reward, because his service invariably is selfless—although he might not be remiss to accepting as a memento films or odd pieces of equipment which he cannot get in this country.

No cameraman visiting India who follows these suggestions need ever return home minus the footage he expected to get.

THE PHOTOGRAPHY IS IMPORTANT TO HITCHCOCK

(Continued from Page 525)

because of its quaint Old World quality and its architecture of medieval flavor. The story, really, could have been placed in Los Angeles, San Francisco, New York, or any other city. It deals with a priest who has heard the confession of a murderer but who, due to the sanctity of The Confessional, is prevented from betraying the culprit even when the priest himself becomes suspect.

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For instance, the manager of the Chateau Frontenac was portrayed by the real manager of the Chateau Frontenac. Chefs and waiters in that world-famed hotel are the same men you would see there today should you visit that hostelry.

Indeed, one bit of action takes place in the Hotel's kitchen and pantries with police running pell-mell through the rooms and a man being shot.

"It just so happened that dinner was being prepared at the same time," smiled Burks. "How the chefs managed I'm not sure. I do know, though, that from my point-of-view it was tough to control those white caps, coats, and aprons. They, as did everyone else in the film except the actors, wore their own clothes. And if they didn't look elegant or dashing in Eddie Schmidt suits and Adrian gowns it was because they were wearing ordinary clothes, which made them resemble the men and women you meet on the street every day."

The police, incidentally, were also the real thing, as were the detectives. The Assistant Chief of Detectives enacted the role of a detective. The judge in the picture, while not a judge yet, is an attorney who has tried many cases in the room where the trial scenes were made.

The absence of makeup added greatly to the over-all effect of naturalism, thinks Burks. Miss Baxter wore very little and the other actors, with the exception of Clift, wore none. Clift had to wear it to hide his heavy blue-black beard which shaving twice daily could not conceal.

The lack of makeup, while adding to the effect of the picture, presented a definite problem to Burks. For while a florid-complexioned man stood next to a pale-faced fellow, the two still had to be kept photographically in balance.
The weather added its own small problems, being of a sunny nature one minute and cloudy the next.

In the courtroom where the trial scenes were held, large windows were utilized for general illumination with only a little supplementary light added. To offset the capriciousness of the sun and to correct the fluctuating light, Burks devised two sets of window filters of neutral density gelatin. When it was cloudy he used a light window filter to get the effect of sunny weather; when the sun came out he used a heavier filter. Throughout these scenes, people passed by outside, and the sky with its small, scurrying clouds was visible, greatly adding to the feeling of reality.

Rain sequences were actually shot on rainy days and in the rain. For one sequence, there is a scene where a 100-man electrical crew, a six-man grip crew, and one camera crew.

“In Hollywood we would have needed a 100-man electrical crew to take care of such a huge set,” observed Burks. “But somehow we managed with the crew we had. Sometimes one gets better results when working under handicaps. We had to get the work done in the best way we could, without embellishments. The result was lacking in that slick, polished look—exactly what we were striving for.”

As to whether or not “I Confess” will start a trend toward a more natural treatment in films, Burks thinks it very well may. For Hitchcock, in his opinion, has a faculty for anticipating what the public wants and will react to.

According to Burks, Hitchcock’s attitude and his cooperation make possible a better photographic job. And Burks’ estimate has real merit, inasmuch as he (Continued on Page 549)
**Allied Artists**

**Columbia**
- Henry Freulich, "Flame Of Calcutta," (Eskay Pictures) (Technicolor) with Denise Darcel, Patric Knowles and Paul Cavanaugh, Seymour Friedman, director.

**Metro-Goldwyn-Mayer**
- Charles Rosher, "Young Bess," (Technicolor) with Jean Simmons, Stewart Granger, Deborrah Kerr, Chr. Laughton, Robert Surtees, director.
- George Folsey, "The Band Wagon," (Technicolor) with Fred Astaire, Cyd Charisse, Vincente Minnelli, director.
- Robert Surtees, "Mogambo," (Technicolor) with Clark Gable, Ava Gardner, Grace Kelly and Douglas Sinden, John Ford, director.

**Paramount**
- George Barnes, "Little Boy Lost," with Bing Crosby, Clau Dauphin, Nicole Maurey, Chris Fournade, George Seaton, director.
- Daniel Fapp, "(Untitled)" with Dean Martin, Jeff Chandler, Dana Reed, Barbara Bates, Don Porter, and Joseph Calleia, Norman Taurog, director.

**AMERICAN SOCIETY OF CINEMATOGRAPHERS**

**FOUNDED** January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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- Charles G. Clarke, "White Witch Doctor," (Technicolor) with Susan Hayward, Robert Mitchum and Walter Slezak, Henry Hathaway, director.

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- William Daniels, "Thunder Bay," (Technicolor) with James Stewart, Joanne Dru, Gilbert Roland, Dan Duryea, Marcia Henderson, and Sterling Hayden, director.
- Russell Metty, "Flame of Timberline," (Technicolor) with Alan Ladd, Sterling Hayden, Douglas Sirk, director.
- Maury Gersman, "The Golden Blade," (Technicolor) with Rock Hudson, Piper Laurie, Gene Evans, Kathleen Hughes, and Edgar Barrier, director.
- Russell Metty, "The Golden Blade," (Technicolor) with Rock Hudson, Mary Louise, Gene Evans, Kathleen Hughes, and Edgar Barrier, director.
- Maury Gersman, "The Golden Blade," (Technicolor) with Rock Hudson, Piper Laurie, Gene Evans, Kathleen Hughes, and Edgar Barrier, director.
- Russell Metty, "The Golden Blade," (Technicolor) with Rock Hudson, Mary Louise, Gene Evans, Kathleen Hughes, and Edgar Barrier, director.

**Warner Brothers**

**Independent**
- James Wong Howe, "Main St. To Broadway," (Cinema Products) with Tallulah Bankhead, Olivia de Havilland, Faye Emerson, H. Fonda, R. Harrison, W. Martin, Ray Knevent, director.
- Karl Strauss, "Tazman And She Devil," (Sol Lesser Prod.) with Lex Barker, Joyce Mackenzie, Kurt Neumann, director.
- Floyd Crosby, "Man Crazy," (Security Pictures) with Neville Brand, Christine White, Colleen Miller, Irene Anders, and John Brown, Irving Lerner, director.
THE PHOTOGRAPHY IS IMPORTANT
(Continued from Page 547)

is recognized as one of the finest cinematographers in the industry. For a long time he held the distinction of being the youngest first cameraman in the business. Burks' career is noteworthy for another reason as well: all of his uninterrupted twenty-three years in Hollywood have been at one studio—Warner Brothers. When he first came to the lot, he hoped to get a job in the music department; but he discovered greater interest in photography, went to work in the camera department. Last year he came pretty close to winning an "Oscar." "Strangers On A Train" was nominated for an Academy Award for black-and-white photography, lost out in close voting to "A Place In The Sun."

MOVIES TELL A STORY
(Continued from Page 534)

and comprehensive record of a natural experience.

That is why the best amateur movies are first planned on paper—in scenario or shooting script form. The action of your story (and here story means anything from a brief movie of the kiddies or family to a simple photoplaylet) should be plotted, if only in skeleton form, to give you the whole picture at a glance, and to make it possible for you to visualize any breaks in the continuous development of the story.

When such pre-planning is not practical, as when making a travel or vacation film, then the next best thing to do is develop a story line as you start to shoot, and edit your picture as you shoot. In other words—instead of recording what you see in unrelated "snapshots," make medium and closeup shots with which to build interesting sequences later at the editing board. And don't forget the closeups!

To the movie amateur to whom continuity is yet an untried technique, we suggest the following procedure: in pre-planning and setting down directions in shooting-script form, simply imagine you are writing a letter about the subject of your filming, giving the same attention to detail and points of interest. Then go back over your letter and underscore the salient points. These will be your individual shots, augmented perhaps by medium and closeup shots.

Follow the same technique when filming without a scenario or shooting script. Pick your subject, and imagine how you'd describe it in a letter. Remember the little details you would de-

(Continued on Page 551)
There are no magic formulas for making a hit. The story is the thing!

Even the orthodox plan of shooting which begins, say, at the railway depot, makes a circle tour, and returns to the same spot, has its undiminished merits. An audience will trail the traveler (the cameraman) knowing there is an aim to the picture, even if it is only returning home again. Yet such a simple continuity can easily be enriched: an insert shot of a map cut in occasionally, having an ever-extending line showing the trend of the journey, is helpful—even if it is not a brand new technique. The story that unifies a film and gives it deeper worth need not be specifically about something or someone. A philosophical theme, well executed, will provide good continuity. Perhaps it is the age-old theory to “get away from it all”; or perhaps it is the search for peace or inspiration that carries the story skipping from place to place and leads to the investigation of remote corners of nature.

If your movie is to tell a story, remember this infallible rule: Keep it moving. Keep the scenes changing, and don’t let the continuity become fixed, grooved, or monotonous—and never scribe and move in with your camera to picture these.

Remember, the story is the thing! Even the orthodox plan of shooting which begins, say, at the railway depot, makes a circle tour, and returns to the same spot, has its undiminished merits. An audience will trail the traveler (the cameraman) knowing there is an aim to the picture, even if it is only returning home again. Yet such a simple continuity can easily be enriched: an insert shot of a map cut in occasionally, having an ever-extending line showing the trend of the journey, is helpful—even if it is not a brand new technique. The story that unifies a film and gives it deeper worth need not be specifically about something or someone. A philosophical theme, well executed, will provide good continuity. Perhaps it is the age-old theory to “get away from it all”; or perhaps it is the search for peace or inspiration that carries the story skipping from place to place and leads to the investigation of remote corners of nature.

If your movie is to tell a story, remember this infallible rule: Keep it moving. Keep the scenes changing, and don’t let the continuity become fixed, grooved, or monotonous—and never
repetitious. Change it in every conceivable way.

Another factor important to developing interesting continuity is varying the focal distances of scenes and changing camera angles. Nothing can be quite so boring as a repetition of all medium shots or all long shots—with no variation. Knowing when to emphasize a sequence by moving in for a closeup or by shooting the scene from a different, perhaps more interesting, camera angle is the technique of the successful cinematographer.

When you have photographed your film according to a carefully prepared plan, you should have an interesting motion picture. It will reveal the thought and preparation put into it; and it will hang together without artificial braking.

Some readers may say this is too much bother and work. But rememver, all professional motion pictures are photographed only after they have been planned and plotted in a shooting script. No, it isn't any bother at all. You'll find pre-planning a great deal of fun. And it's likely that it will result in giving you a renewed interest in your movie making—may be just what you need if you've been letting the dust gather on your camera lately.

END

FOLLOW-FOCUS IN CINEMATOGRAPHY
(Continued from Page 523)

the camera lens. Similarly it was easy to design a finder with a lens which, like the camera lens, could be focused. But to interlock these with the actual focusing of the camera lens was a difficult problem—especially since it was desired to make the finder equally accurate for lenses of all the many focal lengths commonly used.

The answer was found in the use of precision-made cams. Since, with the exception of the somewhat infrequent use of wide-angle 24mm lenses, when a supplementary objective was used to widen the finder’s angular view of field, the same lens was at all times used in the finder, it was not difficult to interlock the focusing of the finder lens with the parallax-correcting pivoting of the finder itself. Interlocking these movements with the focusing of the photographing lens was achieved by the use of a simple cam-and-roller linkage.

Thus, with these improvements, it was now possible for the camera operator to keep his camera lens in sharp focus throughout a dolly or zoom shot, merely by watching the scene in the camera finder and turning the focusing control as required to keep the image sharp.

The action of the finder was governed by the use of interchangeable cams, each ground to the precise curvature which matched the characteristics of a given lens. The cams were matched, not merely to the general characteristics of all lenses of a given focal length, but to the precise characteristics of each individual lens. Lens and finder cam formed a fixed combination in any camera’s accessory equipment.

A further refinement was the fact the focusing threads on the mounts of lenses of different foci were cut to differing pitches, according to the characteristics of the lens. Thus, over the range of settings between infinity and two feet, a 24mm lens required less than a half revolution of the controlling handle, while over the same range, a 4½” lens required over a full revolution of the handle.

The scales for all commonly used lenses were permanently engraved on a single focusing dial, and a movable indicator on the controlling handle obscured all but the calibrations for the lens being used.

The Technicolor Corporation, in designing its three-color camera, reached a novel, yet very practical solution to the problem of follow focus. Because three films run simultaneously through the camera, it is not as quiet as cameras of conventional design. The soundproofing blimp designed for the Technicolor camera therefore had to be extremely efficient. One of the prime specifications for the blimp was that there be absolutely no metallic contact between the camera and the blimp. This meant that conventional focus-control mechanisms, which all involve some form of direct contact between the external control and the camera, could not be used. None-the-less, the nature of color cinematography called for an unusual precise control of focusing.

The solution reached by Technicolor engineers was simple: if mechanical linkage was ruled out, an entire electrical remote control was the alternative. The result is that Technicolor cameras are focused electrically, by a control which may be operated at the blimp itself or from a point several yards distant. (Fig. 2.)

The control is operated by a pair of tiny Selssyn interlock motors. One of these drives the operating control; the other operates the focusing of the lens. Both motors operate from the same electrical current. When the two motors are excited by the same current supply, they automatically synchronize. When the shaft of one motor moves, that of the other at once moves in the same direction and to the same degree.

The remote focusing dial is about 5” in diameter, and is fixed pointer running in a spiral track. Movement of the dial is controlled by a small crank, which is geared to the shaft of the Selssyn motor. Movement of the crank for any focal adjustment is about double that ordinarily involved in conventional mechanisms—a feature which simplifies minute focus changes.

With the growth of 16mm industrial film production and the application to the photography of such films of all the new techniques employed in feature films, it followed that there developed a need for a simple, efficient means of follow-focus for these cameras, too. About three years ago, Richardson Camera Company, of Hollywood, developed a highly practical follow-focus mechanism for professional 16mm cameras. The attachment, pictured in Fig. 1 and which is adaptable to any multiple lens turretted 16mm camera, involves a unique synchronized gear system coupled to a parallax-corrected view-finder, and actuated by a single control. As each lens is shifted into place, a cam automatically corrects finder for parallax.

Footage dial on the extended focusing knob is visible to the operator behind the camera. This knob and dial assembly is detachable and may be set up and operated from either side of the camera. Another important feature permits all normal rack-over operations to be carried out without disengaging or removing the linkage with the follow-focus attachment.

Perhaps the most interesting development in this field is the external follow-focus mechanism which is a feature of the new blimp for the Eclair Camerette, designed and manufactured by the Benjamin Berg Agency, Hollywood. (Fig. 3.)

Follow-focus with the Camerette is greatly simplified through use of the camera’s salient feature—a finder which permits viewing the scene or image through the taking lens as it is being photographed. Thus it was comparatively easy for Berg to design his blimp around this camera, and provide the external control which merely rotates the focusing rings of the camera’s various lenses. Having no side viewfinder to contend with, the usual parallax-correcting linkage between finder and camera lenses is dispensed with.

Incidentally, it is also possible for the amateur movie maker to gain the advantage of follow-focus for his dolly shots, too. Perhaps one of the simplest methods worked out by one amateur provided for a scale plate to be attached to the left side of the camera, with a graduated footage scale facing the
photographer as he operates the camera. A ring with pointer was attached to the lens with a small set screw, and the pointer set so that the scale read infinity when the camera lens was so set. The pointer was provided with a handle extension. Thus, as the cine photographer dollyed forward, he could progressively change focus of his lens, according to a predetermined plan.

Thus we see that the ingenuity of cameramen over the years has met an important problem, solved it readily, and as a result improved the technical quality of motion pictures in all fields of production.

ASSIGNMENT IN GERMANY

(Continued from Page 553)

in any position and to see an upright image without having to lie on his belly or otherwise contort himself.

The camera can be run backwards or forwards without having to change positions of the belt on the 1000-foot film magazines. These are similar to our standard magazines used on American-made cameras except they are divided in half. Thus each half-magazine can be either feeder or takeup, so that a set of six half-magazines affords the same capacity and use as five standard (double-chamber) magazines.

One of the first things I did was to teach the assistant gaffer, the operative cameraman and his assistant how to take accurate incident light readings. The head gaffer and I would stay at the camera and direct the lighting; the assistant gaffer would measure the intensity of the light at far distant points, and the operative or his assistant would then double-check him by also taking readings. I was thus able to solve most of the lighting problems with directness and simplicity, whether the illumination was planned or spontaneous.

The crew was invited to attend the screening of dailies and to discuss technical and artistic matters. Every man, whether on the catwalk or on the floor, was eager to learn how and why things were done. I spent many hours after work explaining and instructing—

But therein lay a practical idea for me. The long and medium shots, introducing the discussion in its mild stage, were fully diffused; then, as we were getting closer to the opponents in progressive cuts, I decreased the diffusion and took the “chokers” without any filter at all, thus adding photographic brutality to a violent argument.

Many of my uncompromising decisions had to be revised and adapted to the functional reality of film making, but in general we observed the strict rule of realism. The story involved hundreds of priests. Every extra as well as actor was carefully tonsured in keeping with the custom of the times depicted, which involved shaving of the head. This soon became such a task for the barbers, that the company finally sent out scouts to round up as many bald-headed men as possible to replace the others!

Matching the realism of authentic locations and studio sets remained our constant worry. Illumination alone cannot do it all; set designing and set dressing are equally important factors. Careful attention was thus paid to authenticity; paintings, furniture and all properties were secured from German museums or antique shops; authentic copies were skillfully made when original pieces could not be brought to the studio. The scars of centuries were marked on the walls of most buildings, so it was necessary to renovate them so they’d appear as they did at the time of Martin Luther.

All these efforts to attain realism were not just background stuff; they were an inherent part of the photographic texture itself; they remain ever-present in the closeups, and in the moving and long shots.

We know, however, that no picture can be truly realistic unless it has a realistic and powerful story to tell. Thus the screened result must remain the final judge; it alone will show the extent of the contribution we made in illustrating the story of Martin Luther.
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<tr>
<td>35mm single SYSTEM SOUND CAMERA, 35mm SYNCHRONIZER, 4 gang</td>
<td>$300.00</td>
</tr>
<tr>
<td>BELL &amp; HOWELL Specialist—like new—Rackover—Bell &amp; Howell 35mm. Standard Perforator tools; 30 ROLLS (800 FT.) SINGLE perforated Scotch film rollers in stock. Chemical pumps, Mixing tanks, new and used.</td>
<td></td>
</tr>
<tr>
<td>S. O. S. CINEMA SUPPLY CORPORATION</td>
<td>602 W. 52nd Street, New York 19</td>
</tr>
<tr>
<td>Dept. 1</td>
<td>Cable: SOSOUND</td>
</tr>
</tbody>
</table>

#### LABORATORY & SOUND

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATIONAL CINE CINEMA EQUIPMENT, INC.</td>
<td>229 West 48th Street, New York, N.Y.</td>
</tr>
<tr>
<td>16 MM FILMS FOR USED 16/35MM EQUIPMENT</td>
<td>WRITE - WIRE - PHONE</td>
</tr>
<tr>
<td>IMMANUEL, 1096 Chapel St., New Haven, Conn.</td>
<td></td>
</tr>
</tbody>
</table>

#### WANTED

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Mitchell — Akeley — B &amp; H — Hall — Eymo</td>
<td></td>
</tr>
<tr>
<td>Cameras — Lenses — Equipment</td>
<td></td>
</tr>
<tr>
<td>NATIONAL CINE CINEMA EQUIPMENT, INC.</td>
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<td>IMMANUEL, 1096 Chapel St., New Haven, Conn.</td>
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#### SLIDES, PHOTOS & FILMS

<table>
<thead>
<tr>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>NATURAL COLOR SLIDES, Scenic, National Parks, Cities, Animals, Flowers, etc.</td>
<td>Set of eight $1.95</td>
</tr>
<tr>
<td>Sample &amp; List 25c. SLIDES - Box 206, La Habra, California</td>
<td></td>
</tr>
</tbody>
</table>

#### CAMERAS & SOUND MEN

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 M/M cameraman available for coverage of Southern territory. Twenty years experience as 16mm photographer, editor and sound recording industrial and Medical. MARCUS WHITAKER, 319 Thuss Ave., Nashville 11, Tenn.</td>
<td></td>
</tr>
</tbody>
</table>

#### CLASSIFIED ADVERTISING

<table>
<thead>
<tr>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>FOR SALE</td>
<td></td>
</tr>
<tr>
<td>Mitchell, B &amp; H, EYEMO, DEBRIE, AKLEY, ALSO LABORATORY AND CUTTING ROOM EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>CAMERAS AND EQUIPMENT</td>
<td>1600 BROADWAY, NEW YORK CITY 19</td>
</tr>
<tr>
<td>CABLE: QINEUP</td>
<td></td>
</tr>
</tbody>
</table>

#### IMMEDIATE CASH PAYMENT FOR CAMERAS AND EQUIPMENT

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>NEED EYEMOS (SINGLE LENS AND TURRET), MITCHELLS, ARBIFLEX, DE BRIES, B&amp;H STANDARD AND H-SPEEDS, WALLS, AKLEY'S, CINE SPECIALS, AURICONS, MAURERS, FILMOS, ALSO BALTARS, COOKES AND OTHERS LENSES. SOUND STAGE, LABORATORY AND EDITING EQUIPMENT OF TRADE TYPES REQUIRED. SHIP INSURED OR FORWARD DESCRIPTIONS AIRMAIL. IMMEDIATE PAYMENT. GREAT SAVINGS. GORDON ENTERPRISES, Inc.</td>
<td>$362 N. Cahuenga NORTH HOLLYWOOD, CALIFORNIA</td>
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#### WANTED

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<tr>
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<tbody>
<tr>
<td>All 16-35mm production equipment from camera to screen. Laboratory and editing equipment, single items to complete studios. Will accept used equipment in trade.</td>
<td></td>
</tr>
<tr>
<td>THE CAMERA MART, INC.</td>
<td>1845 BROADWAY NEW YORK 23, N.Y.</td>
</tr>
<tr>
<td>WANTED</td>
<td></td>
</tr>
<tr>
<td>MITCHELL — Akeley — B &amp; H — Hall — Eymo</td>
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#### LABORATORY & SOUND

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<tr>
<td>SOUND RECORDING at a reasonable cost. High Fidelity 16 or 35, or 16 M/M cameraman available for coverage of Southern territory. Twenty years experience as 16mm photographer, editor and sound recording industrial and Medical. MARCUS WHITAKER, 319 Thuss Ave., Nashville 11, Tenn.</td>
<td></td>
</tr>
<tr>
<td>MAIL. IMMEDIATE PAYMENT.</td>
<td></td>
</tr>
</tbody>
</table>
Love's new sweet song

True love never did run smoothly—
not in the continuity. But in filming
it must... if new-day budgets are
to be met. That is why so much attention
is given to keying film and situation...
to precision processing controls; why so much
is done to ensure prints of optimum quality at
minimum expenditure; why the Eastman
Technical Service for Motion
Picture Film works with the
industry—cooperates alike
with studio, laboratory, exchange,
and theater operator.

Branches at strategic centers...
inquiries invited from all members
of the industry. Address:
Motion Picture Film Department
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

East Coast Division
342 Madison Avenue
New York 17, N. Y.

Midwest Division
127 North Wabash Avenue
Chicago, Illinois

West Coast Division
6706 Santa Monica Blvd.
Hollywood 38, California
MOST WELCOME GIFTS!

The finest magazine loading 16mm cameras ever! You'll know it from the moment you see these brand new "200's", so appealing to the eye in their gray scuff-proof finish and satin chrome trim. But proof is in the using of these cameras... in experiencing the versatility they make possible. Here is everything you've ever wanted in a camera—beauty, dependability, simplicity of operation, and the name that stands for superb quality in movie equipment—Bell & Howell. Before you make your choice of a camera, be sure to see these outstanding "200's." Have your dealer show you both models—the single lens and the turret. Most dealers offer liberal terms and trade-ins.

2 EXCITING 200's

Check these "200" features:

- Instant magazine loading
- Finest 1" f/2.5 Filmocoted lens
- Easy interchanging of lenses
- Positive viewfinder—see exactly what you get
- 5 precisely calibrated operating speeds—including true slow motion
- Continuous-run lock and single frame release
- Film plane mark
- 12½-foot film run to get all the action
- Convenient ratchet winding
- New, built-in exposure guide—determine correct exposure immediately
- Lifetime guarantee*

Winner of the coveted Society of Motion Picture Art Directors Award

*During life of the product any defect in workmanship or material will be remedied free (except transportation). Prices subject to change without notice.

You buy for life when you buy Bell & Howell Chicago 45