

American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

July 1974/One Dollar



on location
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Tamarind
Seed**

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I can't say that I blame them.

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had to take a long hard look at their pricing structures on motion picture equipment. My prices are rocking the boat.

They've also discovered that expedience is no substitute for selling the right equipment for the right job. I don't look at customers with dollar signs in my eyes. Now they won't be able to, either.

It seems that the more customers who get comfortable with

the way I do business, the more uncomfortable my competitors get. So if you're a legitimate competitor, I'll be happy to send you a Sy Cane dart board (at cost, of course). It'll help you get rid of some tension.

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American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

JULY, 1974

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ON THE COVER: A collage of scenes shot on location in Barbados, London and Paris for the Blake Edwards Film, "THE TAMARIND SEED", a Jewel Productions Ltd and Pimlico Films Limited production, starring Julie Andrews and Omar Sharif. Cover Design by DAN PERRI. Photographs by JOHN JAY.

The American Society of Cinematographers is not a labor union nor a guild, but is an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as Directors of Photography and have demonstrated outstanding ability. Not all cinematographers can place the initial A.S.C. after their names. A.S.C. membership has become one of the highest honors that can be bestowed upon a professional cinematographer, a mark of prestige and distinction.

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Canon's super cameras for Super 8.

Here they are. The cameras that do everything you ever dreamed a Super 8 could do. And do it with such smoothness, reliability and versatility that film-making becomes literally a matter of mind over machine.

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Canon Auto Zoom 1014 Electronic

Now you can get the spectacular effects other cameras denied you. Canon's newest Super 8, the 1014—with ten times zooming ratio—lets you glide effortlessly from 7.0 to 70mm either automatically or manually.

With variable shutter control you can make perfectly matched lap dissolves, superimposed images, fade-outs and fade-ins. Even animation is possible because the 1014 gives you filming speeds from instant slow-motion to single frame with synchronized flash.

Time lapse is also possible with the Interval Timer E. Or if you want to get into the picture yourself, there's the Self Timer E for delayed action filming.

In a Canon camera you'd naturally expect a superb lens. That it is. The 1014 gives you a fast f:1.4 lens with built-in macro capability. So you can shoot as close as $\frac{3}{8}$ of an inch from the front of the lens.



Viewing is through-the-lens, and focusing is via split-image rangefinder, with an accuracy you'd expect from the maker of one of the most prized professional SLR cameras. And with automatic servo exposure control, the camera sets the aperture for you. So you can concentrate on the shot instead of the light.

The Canon 1014. It can give the larger formats a run for their money.

Canon Auto Zoom 814 Electronic

This is the camera from which the 1014 was born. And it's hard to find more distinguished parentage. The Canon 814 with eight times zooming ratio (7.5 to 60mm) has proven itself time and again as one of the most versatile, most reliable Super 8s available.

Since it's not mass-produced, it's not for everyone. Only those who want the best. A lucky few. But that doesn't mean anyone can't operate it.

The 814 gives you the same automatic exposure accuracy with servo electric-eye metering, the same automatic fade-out, fade-in capability as the 1014. Along with shutter speeds from instant slow-motion to single frame with synched flash, remote control and super close-up macro without attachments.

For more information about these and Canon's other fine movie cameras, see your photo dealer. Or write to us—Canon USA, Dept. AC-6

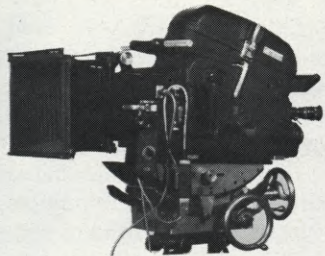


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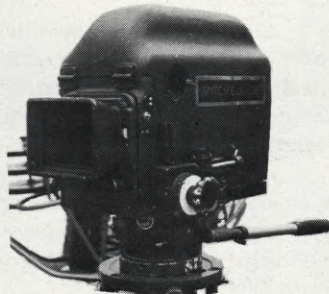
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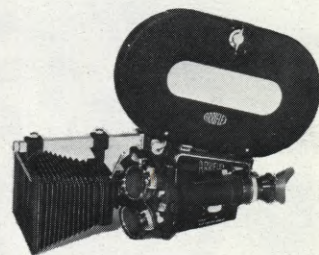
ARRI 120-S Crystal Blimp, II-C Camera, 25-250mm zoom lens and zoom motor \$11,995.00



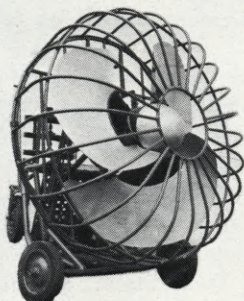
MITCHELL 16MM SOUND BLIMP \$995.00



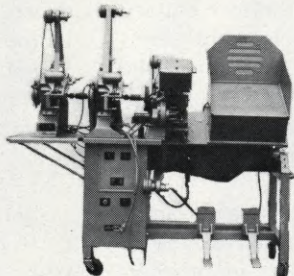
ARRI 35MM HARD FRONT, accepts BNC-R mounted lenses, variable speed motor \$3,295.00



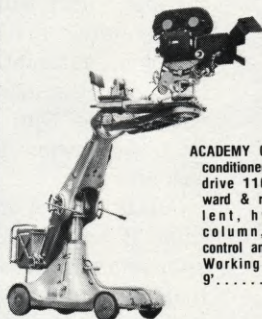
ARRI 16-M, variable speed motor, 2/400' and 1/200' magazines, 3 std. lenses, matte box \$5,000.00



WIND MACHINE, 36", 110V-DC \$595.00



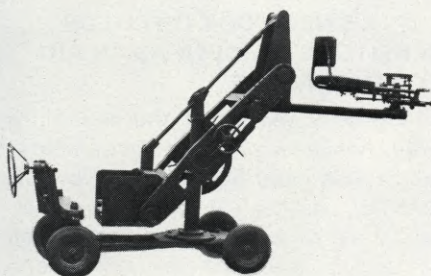
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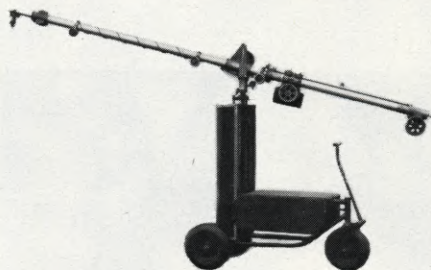
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CAMERAS

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12-120MM ANGENIEUX ZOOM Arri or C mount \$900.00
 9.5-95MM ANGENIEUX ZOOM Arri, C or Eclair mount 1,700.00

5.7MM KINOPTIK Tegea Arri or C mount 595.00
 18MM COOKE Arri mount, for 35mm camera 200.00
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 24mm, 35mm, 40mm, 75mm, 100mm COOKE, NC mount each 75.00

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ARRIFLEX 16mm 110-v Sync with power supply \$150.00
 MITCHELL 16mm 110-v Sync 450.00
 MITCHELL 16mm 12-v Var Speed 325.00
 MITCHELL 16mm 220-v Sync 450.00
 ARRIFLEX 35mm 110-v Sync 325.00

MAGAZINES

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ARRIFLEX 16mm \$995.00
 AURICON BLIMP and 110-volt Sync Motor, for CINE-SPECIAL w/200' magazine 195.00

SOUND

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 MICROPHONES, E-V, Auricon, American 10.00
 AURICON Optical Amplifiers 50.00

PROJECTORS

SIEMENS 2000 Double System \$1,900.00

STILL

NIKON F-2 Camera, motor, attached battery pack, 50mm f1.4 lens \$375.00
 PENTAX H3V Camera, 55mm f1.8, 28mm f3.5, 105mm f2.8 lenses, case 275.00
 Large assortment of Nikon lenses and accessories as well as other types of still equipment.

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CAMERA ACCESSORIES



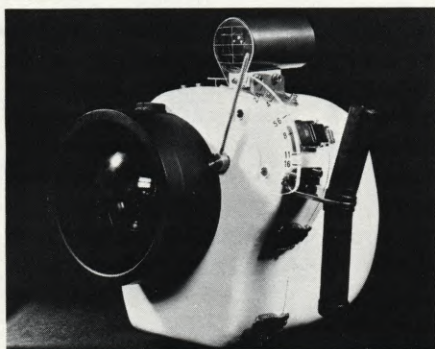
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WHAT'S NEW

IN PRODUCTS, SERVICES AND LITERATURE



UNDERWATER CAMERA HOUSING FOR 400' ACL

New Model ACL-4 Underwater Housing for the Eclair ACL camera with 400-ft. (or 200-ft.) magazine is cast aluminum, and tested to 350-ft. depth. Weighing only 39 lbs complete, it gives an ideal 16 oz. negative buoyancy at average working depth. It uses any standard ACL camera, cables, and battery, which can be installed simply and quickly. Magazines can be changed in less than one minute.

Design provides excellent vertical clearance for tight shooting and diver safety. The f/stop system is easy to read and operate. There is a viewable film-footage counter, and an enlarged reflex viewing system available as an option. An extensive list of accessories is available to enhance operational convenience.

The Model ACL-4 is available from stock or current production. It lists at \$3995 and can be rented at the best equipment houses. Dealer inquiries invited. For further details, contact Will Williams at, IMAGE DEVICES INCORPORATED, 811 N.W. 111 Street, Miami, FL 33168. Telex 51-9348. TWX 810/848-9999. Telephone 305/751-1818.

CINE 60 ANNOUNCES NEW "QUICKIE" FAMILY OF QUICK-CHARGING BATTERY BELTS

Cine 60 Incorporated announces its new line of "Quickie" Battery Belts. Similar in size and appearance to the firm's original Battery Belt, "Quickie" Belts feature a special fast-charging system which permits them to go from a fully-discharged state to a fully-charged state in just one hour (less, if batteries are not fully discharged when charging

is begun). Quickie Belts are available in the same wide range of models as the original Battery Belt, to accommodate all types of professional cameras and low-voltage sun guns. All Quickie Belts also feature an improved housing design, which makes the belt even more flexible and durable.

In the Quickie Belt, charging is facilitated by additional heavy-duty circuitry within the belt, plus a detachable charging module which permits fast charging with complete safety. The combination of a timer mechanism and an electrical thermal cutoff which monitors battery temperature, prevents harmful overcharging, automatically switching the belt into the trickle-charge mode. A quick-charge light is automatically extinguished when the belt reaches full charge.

Quickie Belts are available in ranges from 8 to 30 volts, with up to 4 ampere-hour capacity. For more information, contact Cine 60 Incorporated, 630 Ninth Avenue, New York 10036 (212) 586-8782.



PROTECTION FROM AIRPORT X-RAYING . . .

Aeroprint Products announces new FilmShield FILM WRAP™ to protect unprocessed motion picture film from airport, postal, and foreign customs security x-rays.

FILM WRAP™ is a 20-1/2" wide roll containing 6 ft. of FilmShield material for wrapping around film . . . also for lining equipment cases.

Triple-laminated with LEAD foil sandwiched between a layer of tough, puncture-resistant polyester and BARIUM-impregnated polyethylene, it offers safety, strength, foldability, and re-useability.

Eastman Kodak in its most recent report to the FAA on testing 64 E.I.

Speed film using the safest airport x-ray equipment (used at less than 15% of domestic airports) under ideal conditions, reports that as little as "five exposures produced a faint image." Many of these "safe" machines offer the operator higher-level, manual, and repeat-switch positions.

Although there are no Federal safety parameters today, the FDA is soon expected to release its *Health Safety Standards* for domestic equipment—no such guarantees can be made for film safety.

Airline claims that their machine is "safe for film" only refers to that *single (lowest level) inspection* without consideration that the effects of x-ray upon film is CUMULATIVE AND IRREVERSIBLE and that your film will undergo additional inspections on a variety of equipment during its total journey.

FILM WRAP™ eliminates endless hassling with airport security personnel, many of whom are refusing requests for visual inspections—and is truly a low-cost FILM FLIGHT INSURANCE.

For further information, please write to Ronald Cataldo, Aeroprint Products USA, Inc., 27 Bland Street, Emerson, NJ 07630—Tel: 201 967 1050.

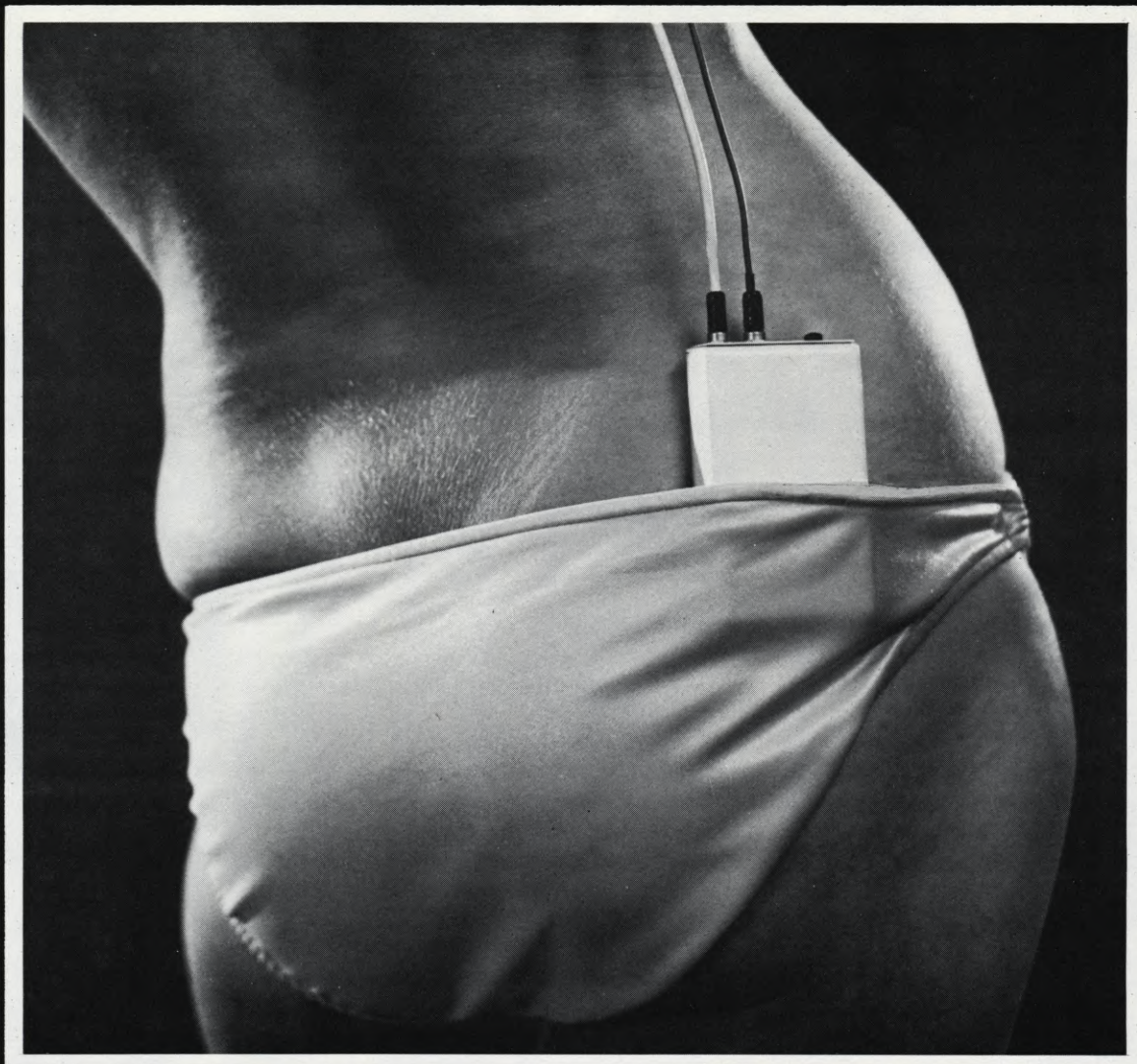
SMPTE'S NEW BOOK ON COLOR SENSITOMETRY SEEN AS AN AID TO FILMMAKERS

The new version of the best-selling book *Principles of Color Sensitometry*, which was recently published by the SMPTE, has been described as an essential aid to serious filmmakers as well as to film manufacturers and laboratories. The book, first published in 1950, has been entirely rewritten and modified.

Anyone making films professionally should know about the materials he's working with. The relationships of exposure and processing to the finished products, and how these relationships are determined and used, should be basic to any filmmaker.

According to Eastman Kodak's Roderick T. Ryan, who edited the book, *Color Sensitometry* explains the importance of accurate color reproduction on the screen. To achieve this requires a long train of precision work. Color photography affords little tolerance for trial and error. That means that accurate measurements are required to obtain quantitative knowledge of the light-sensitive materials in use. The details of these measurements, and how they are made, are what the book is all about. It

Continued on Page 862



Swintek

... the wireless microphone system small enough to be hidden anywhere

The sensational new Swintek Mark IV Wireless Microphone System features a mini-sized transmitter that is small enough to be hidden anywhere, yet it provides quality sound recording that meets the demands of even the most exacting professional filmmaker. The transmitter weighs only five ounces, will accept any type microphone and can easily be hidden in costumes, even a bikini. The receiver is fully portable and operates on either AC or DC. The entire system comes with a smart-looking custom carrying case and here's the best news of all — Swintek Mark IV is only \$960.00 complete, with a guarantee that it will equal or outperform Vega, Sennheiser, Audio or any other competitive brand. Come in today for a free demonstration or write for our free specification and comparison sheets.



Swintek Mark IV, complete with transmitter, receiver, AC charging cable and carrying case.



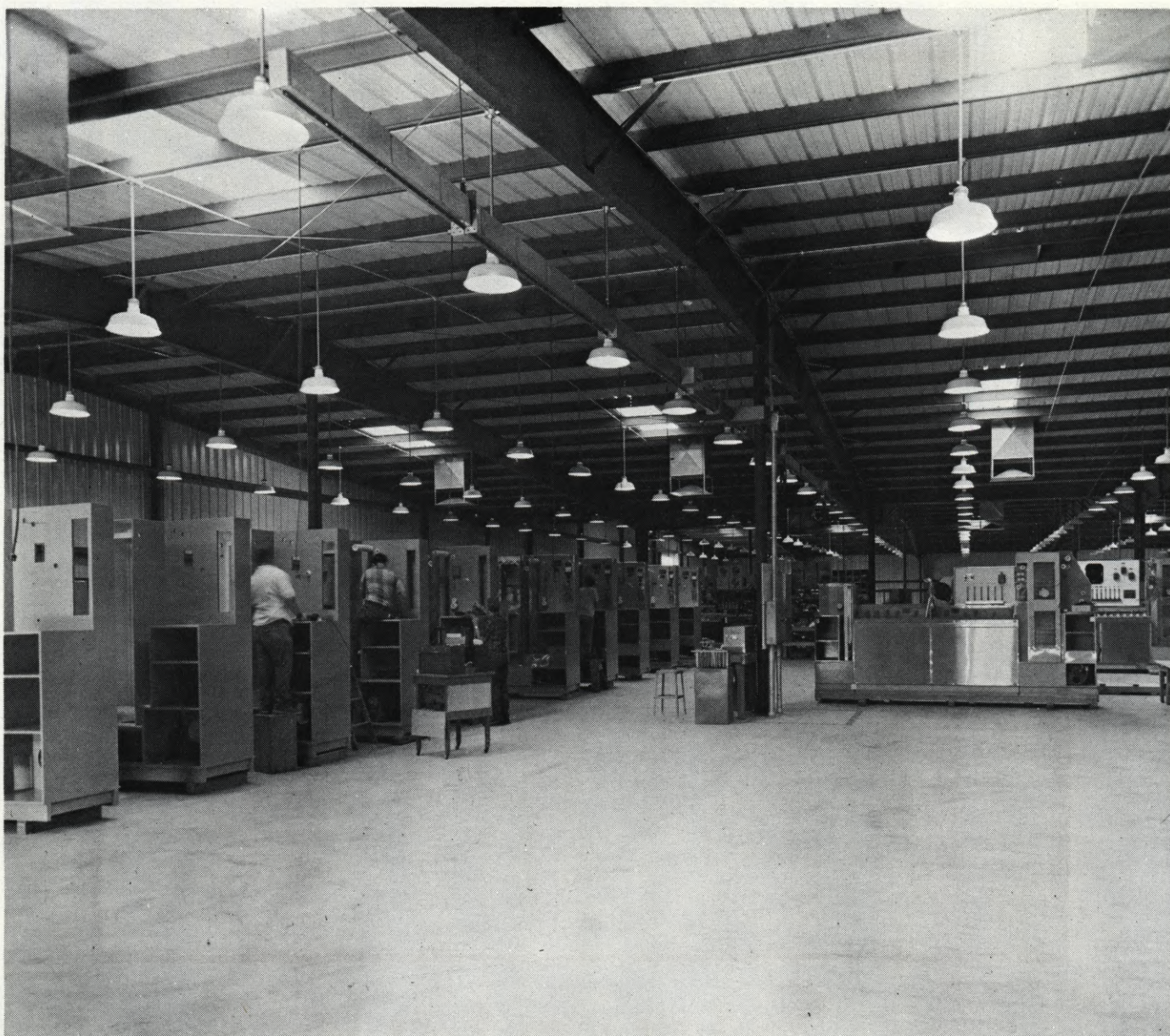
Swintek Mark V with transmitter built into microphone. Ideal for on-stage performers or lecturers.

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Throughout the years, Houston has continually improved these machines, taking advantage of every technological advancement, developing more precise, dependable controls, simplifying opera-

tion procedures, testing and determining the best materials for every specific application.

Today, Houston processors are the most durable and reliable that modern technology can produce. Whatever your needs, it will be in your best interest to consult Houston Photo Products before investing in a processor for any type of color or b&w film. Write or phone.

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AURICON "SUPER-1200"
1200 FT. RUNS 33 MIN.

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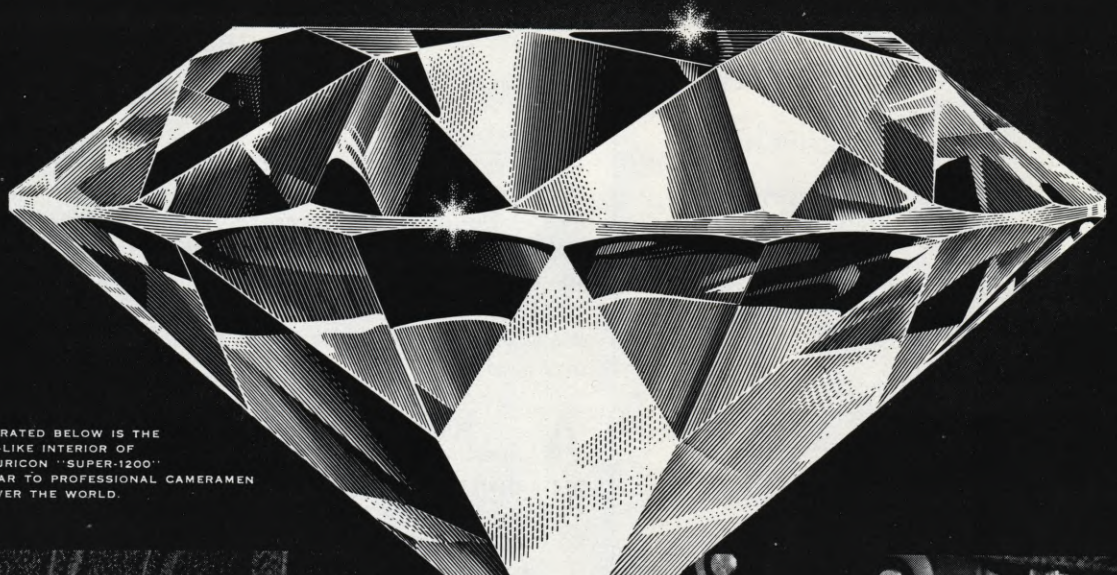
All Auricon Equipment is sold with a 30-day money back Guarantee and a 1 year Service Warranty. You must be satisfied!



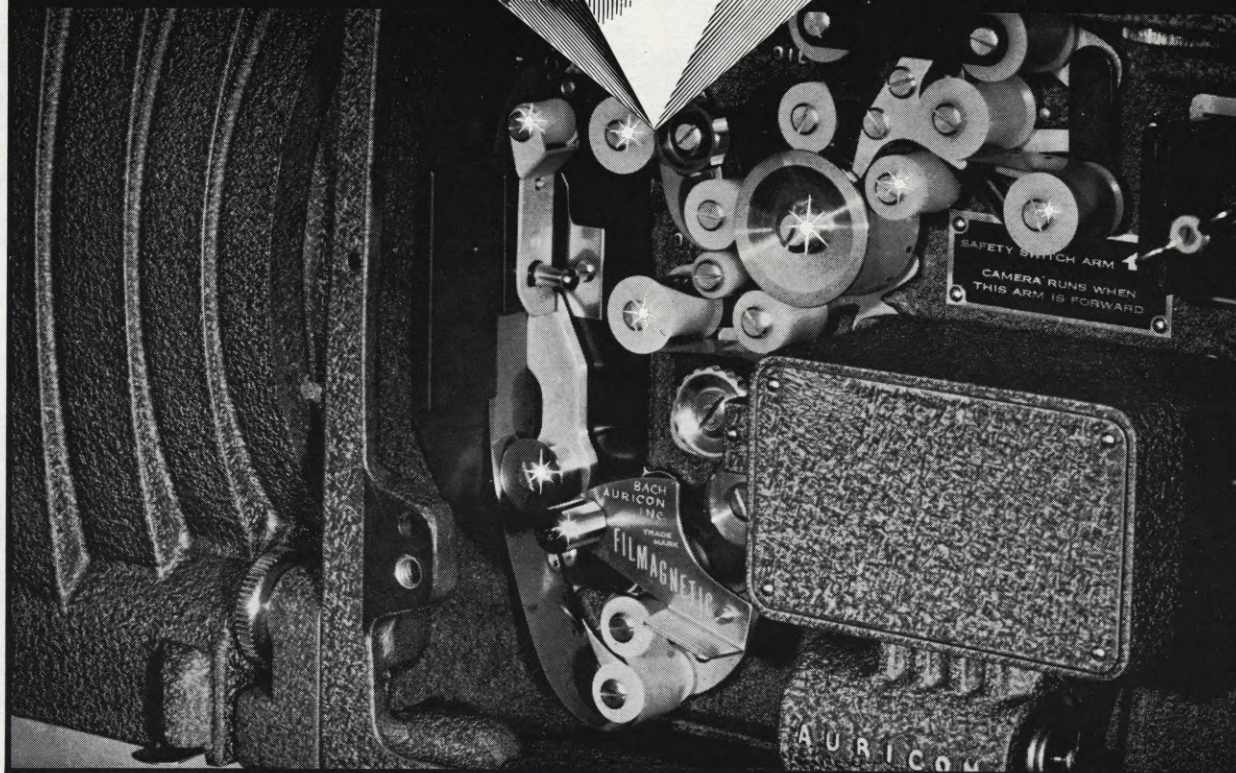
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AURICON
CATALOG

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The Auricon Camera is a jewel
of fine craftsmanship...



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FAMILIAR TO PROFESSIONAL CAMERAMEN
ALL OVER THE WORLD.



... FOR JEWEL-LIKE PRECISION IN FILMING ROCK-STEADY MOTION PICTURES!

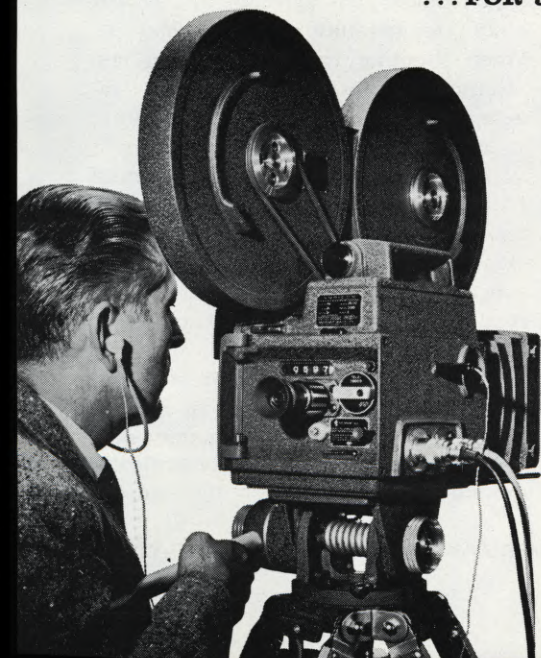
The Auricon "Super-1200", like all Auricon 16mm Professional Cameras, is a superb picture-taking instrument. Every precision-engineered part of this finest of all 16mm Cameras is carefully built and assembled with the rare watch-maker skill of old-world craftsmanship, combined with modern, space-age know-how in optics and electronics. The Auricon "Super-1200" actually contains jewels in the Camera-Gate! This polished Sapphire Film-Gate is guaranteed frictionless and wear-proof for in-focus and scratch-free pictures, regardless of how much film you run through the Camera! Among the many professional features of the "Super-1200" is Reflex Ground-Glass Focusing through the Camera lens. All this, and high-fidelity, optical or magnetic, single-system or double-system sound-recording capabilities which are unmatched by any other camera in the world! Write for free, illustrated Auricon Catalog fully describing this rare jewel of fine craftsmanship.

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AURICON... THE PROFESSIONAL CAMERA • STANDARD OF THE 16MM SOUND INDUSTRY SINCE 1931



rosco says

Photography Under Fluorescents. Part I... Getting the Green Out!

The light source most often specified by architects for commercial and public office buildings, even before the "energy crisis," is and has been the fluorescent tube. It is not nearly as popular with cameramen who must accomplish photography in these locations. The pervasive green tint associated with these lights, makes the rendering of normal flesh tones impossible without some filtering.

News cameraman, who deal with this problem most often, usually ignore the fluorescents, and light their subjects with 3200° K for adequate exposure. The background is allowed to go green. Of course, their primary concern is to get a story that usually allows no retakes, and color balance considerations become secondary.

There are two simple ways to "get the green out" where fluorescent lighting is the only source:

- (1) Camera Filters—Recommendations are available for CC combinations from the various film and lamp manufacturers (with almost no agreement between them). Some commercial filters, such as the Tiffen FLB and FLD, are widely accepted.
- (2) Light Source Filters—TOUGH MINUSGREEN has been created by Rosco in a 54 inch wide roll. It is intended for application directly at the fluorescent tube, usually in the fixture. The name is properly descriptive of the function performed. The results, particularly with Cool White or Daylight tubes, is a photographically acceptable version of "daylight."

PART II of this story will deal with a more sophisticated system of Rosco Light Control for the fluorescent problem. That one will permit mixing *unfiltered fluorescents* with all other types of lighting.

rosco

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Studio City, Cal. 91604 ♦ Tel. (213) 980-0622
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QUESTIONS & ANSWERS

Conducted by CHARLES G. CLARKE, ASC.
and WALTER STRENGE, ASC.

(Inquiries are invited relating to cinematographic problems. Address: Q. & A., AMERICAN CINEMATOGRAPHER, P.O. Box 2230, Hollywood, Calif. 90028.)



Q I wonder if you could explain the use of the various types of negatives and prints in the processing of film and the meaning of terms like "fine grain positive", "CRI", "interpositive", etc. I would especially appreciate a flow chart, verbal or otherwise, of the laboratory process.

A An appropriate answer to your question would require more space than is available in this column.

You can obtain the information and flow charts from a two-part article by Richard Patterson entitled SURVEY OF MOTION PICTURE FILM STOCKS AND LABORATORY PROCEDURES that appeared in the June and July 1971 issue of this magazine.

The same information and flow charts appear in more current version in Kodak publication #H-25 which may be obtained from the Eastman Kodak Company, Motion Picture and Education Markets Division, Rochester, New York; Hollywood, California; or other offices throughout the country. Sid Solow, CFI.

Q We have a problem regarding our background projection screen which is marked with blotches of fungus, the result of high humidity in our studio. These spots are quite obvious in shots made with this screen. We have tried to eliminate the spots with a number of different solutions, but without success. Any suggestions?

A We suggest that you wash the screen with water, using a soft bristle brush. Then give it another washing—this time with a fungicidal detergent that is soluble in water. Follow this with another washing, using the bristly brush, and rinse thoroughly, using clear water. During this procedure be sure you do not wet the top member of the screen frame, as any water dripping down from this will tend to mar the screen surface, due to accumulation of dust, etc., on frame. Also, do not allow drops of water to stand on screen surface while drying, as this will result in objectionable spotting. Absorb any water droplets with a blotter. Should this treatment fail to restore screen to usable condition, it is likely that the fungus stains have "set," and the screen must be replaced.

Q When producing commercials for integration with TV program films, how can we insure that the negative or the print, or both, of the commercial will be compatible in density, contrast and overall picture quality with the program film?

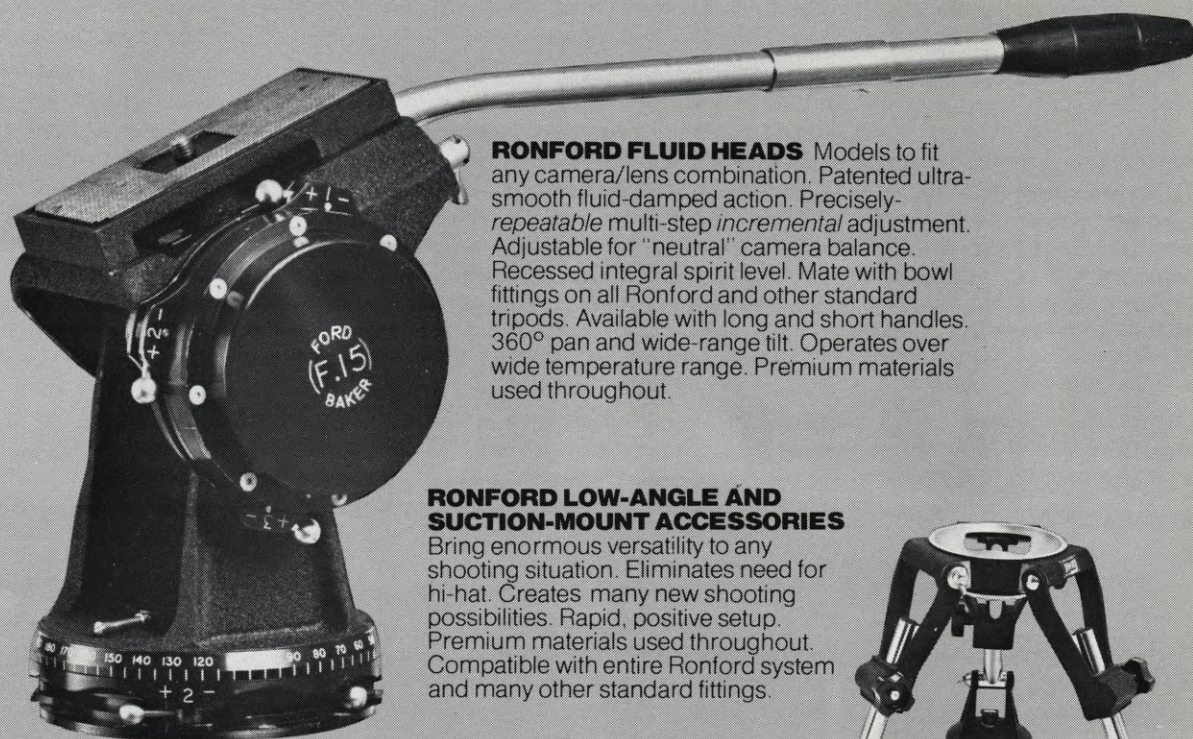
A Where the commercial and the TV program film are both processed by the same laboratory, the matching of overall quality becomes more or less automatic. Where the commercial cannot be processed by the same lab that processes and prints the program film, it is advisable to obtain a few specimen sections of negative trims from representative scenes from the program film, which may be joined to the negative of the commercial. In this way, a check print can be made consisting of the commercial and the program film clips—both on the same roll. The check print thus made should show that the commercial requires a printer light within two or three points of the sample negative, and show the same contrast. Since there is no standard for density and contrast for original and duplicate negatives, it becomes necessary to provide a controlled reference as a guide for the laboratory technicians.

Q When shooting Ektachrome out of doors, should a CC filter be used in addition to the Wratten No. 85 filter to balance color when shooting early in the morning or late afternoon? Can one be of gelatin and the other glass?

A Purpose of the No. 85 filter is to convert daylight to the proper color temperature for Ektachrome. When shooting from morning to late afternoon, color temperature of daylight changes progressively. Therefore, to obtain optimum color rendition in your photography at all times, it would be necessary to take color temperature readings of the daylight at intervals, as well as exposure readings; then, with the proper filters, make the necessary corrections of the light to effect consistent results.

As regards the filters, both glass and gelatin filters give good results, and the two types can be used together with success. Glass filters should be optically ground to insure definition of image.

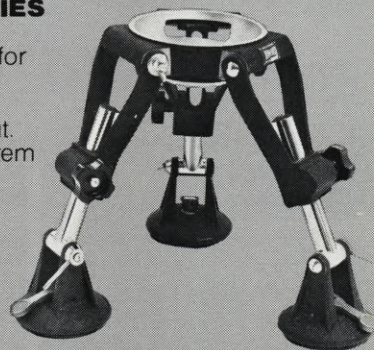
RONFORD HEADS, \$520-1630. SUCTION ATTACHMENTS, \$260 AND UP. TRIPODS, \$265-495. INFLATION? NO. PERFECTION.



RONFORD FLUID HEADS Models to fit any camera/lens combination. Patented ultra-smooth fluid-damped action. Precisely-repeatable multi-step *incremental* adjustment. Adjustable for "neutral" camera balance. Recessed integral spirit level. Mate with bowl fittings on all Ronford and other standard tripods. Available with long and short handles. 360° pan and wide-range tilt. Operates over wide temperature range. Premium materials used throughout.

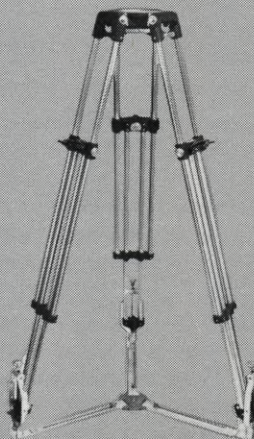
RONFORD LOW-ANGLE AND SUCTION-MOUNT ACCESSORIES

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"Designed to last indefinitely," is not a Ronford salesman's boast, but a case of British understatement. You owe it to your reputation to find out more about the Ronford line. Or better yet, trying their products for yourself.



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Available in light, medium and heavy duty models. Absolutely rigid in all positions. Positive, quick-action lock. Exclusive "no-stoop" height adjustment. High strength/weight ratio. Premium materials. Fully guaranteed.

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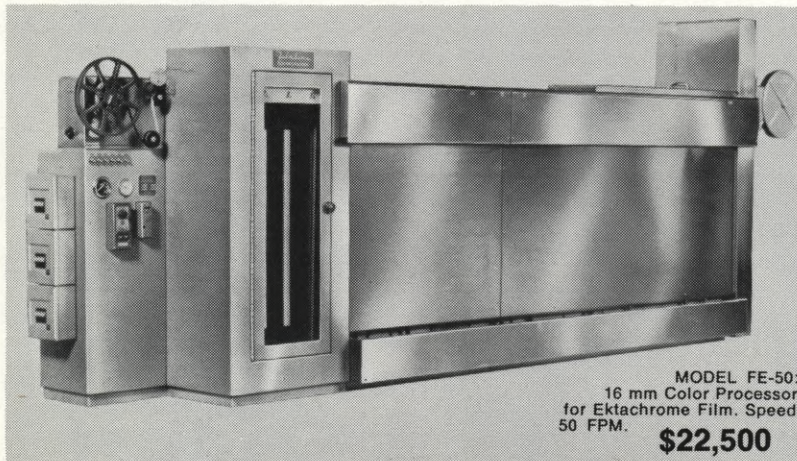
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FILMLINE'S professional color film processors for motion picture laboratories.

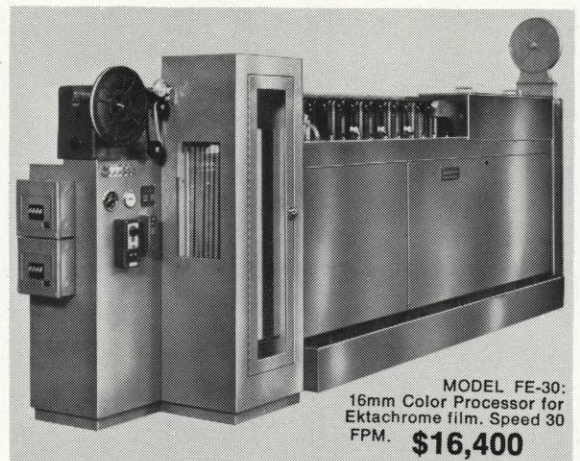
The Filmline Models FE-30 and FE-50 are fast, foolproof, troublefree and long-lasting. They turn out consistently superior work. The design is backed by Filmline's reputation as the world's leading manufacturer of film processors for the motion picture laboratory industry.

Now enjoy the benefits of professional equipment incorporating exclusive Filmline features that have paced the state-of-the-art in commercial, industrial and defense installations at a cost lower than processors offering less.

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MODEL FE-50:
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16mm Color Processor for
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FPM. **\$16,400**

- **"FILMLINE OVERDRIVE FILM TRANSPORT SYSTEM"**
This marvel of engineering completely eliminates film breakage, pulled perforations, scratches and operator error. The film can be deliberately stalled in the machine without film breakage or significant change of film footage in solutions. The heart of any film processor is the drive system. No other film drive system such as sprocket drive, bottom drive or simple clutch drives with floating lower assemblies can give you the performance capability of the unique Filmline Overdrive Film Transport System.
- **"TORQUE MOTOR TAKE-UP"** gives you constant film take-up and does not impose any stress or strain on the film itself. Completely independent of the film transport system. This FILMLINE feature is usually found in professional commercial processors but is incorporated on the FE-30 and

FE-50 models as standard equipment. Don't settle for less!

- **"TEMP-GUARD"** positive temperature control system. Completely transistorized circuitry insures temperature control to well within processing tolerances. Temp-Guard controls temperatures accurately and without the problems of other systems of lesser sophistication.
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- **"ZERO DOWN TIME"** The reputation of any film processor is only as good as its reliability. The

combination of the exclusive and special added Filmline features guarantees trouble-free operation with absolute minimum down-time and without continual operator adjustments. Recapture your original investment in 2 years on maintenance savings alone. Filmline's "Push the button and walk-away processing" allows inexperienced operators to turn out highest quality film.

- **"MATERIALS, CONSTRUCTION AND DESIGN"** All Filmline machines are constructed entirely of metal and tanks are type 316 stainless steel, heliarc welded to government specifications. The finest components available are used and rigid quality control standards are maintained. Compare Filmline features to other processors costing more money. Feature-by-feature, a careful evaluation will convince you that Filmline offers you more for your investment.

Additional Features included in price of machine (Not as extras).

Magazine load, daylight operation ■ Feed-in time delay elevator (completely accessible) ■ Take-up time delay elevator (completely accessible) ■ Red brass bleach tank, shafts, etc. Prehardener solution filter ■ Precision Filmline Venturi air squeegee prior to drybox entry ■ Air vent on prehardener ■ Solid state variable speed D.C. drive main motor ■ Bottom drains and valves on all tanks ■ Extended development time up to two additional camera stops at 50 FPM ■ Pump recirculation of all eight solutions thru spray bars ■ Temperature is sensed in the recirculation line ■ All solutions temperature controlled, no chilled water required ■ Built-in air compressor ■ Captive bottom assemblies assure you constant footage in each solution ■ Change over from standard developing to extended developing can be accomplished in a matter of seconds ■ Impingement dryer allows shorter put through time.

Partial listing of Filmline users: Film Laboratories; Technicolor, Byron Motion Pictures, TVC Labs, Precision, Reela Film, Bellevue-Pathe, Filmhouse, Ltd., Deluxe General, Capital Film, Movie Lab, Radiant, Guffanti Film, National Film Board of Canada, Alexander Films, Canadian Defense Medical Center.

TV Networks and Stations: NBC, CBS, ABC, WMAL, WXYZ, WWL, WJXT, WTOF, WCKT, WTVI, WNEW, WPIX, WOR, WNAC.

Other: NASA, General Electric, IBM, General Dynamics, United Aircraft, General Motors, Eastman Kodak Company, Bell Telephone Labs, E. I. DuPont Co.

Governments: Canada, Mexico, Thailand, United States, Israel, Qatar, United National.

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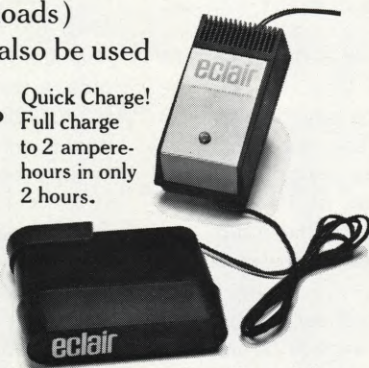
Eclair just made your life a little easier again. What we did for magazines, we've done for camera power.

It's our new quick-charge/quick-change battery system, and lives up to the name. Charging faster than ever before. Changing to a fresh cell in seconds.

Heart of the system is our new BAP 2-ampere-hour battery pack. Housed in its unbreakable LEXAN® case is a 12-volt configuration of the finest individual sintered nickel-cadmium cells, with welded interconnections and spring-loaded silver-plated contacts. Under normal conditions, it will run 12-15 200-foot loads (or seven 400-foot loads) through an ACL, and can also be used with the NPR.

Using its matching ZAP charger, the BAP accepts a full charge in just 2 hours; a 60-70% charge takes just one hour. The ZAP also protects the BAP — its pilot light dims when 60-70% charge is reached, and extinguishes after the 2-hour full-charge period. At this point, the BAP is placed on a trickle charge, which can be con-

Quick Charge!
Full charge to 2 ampere-hours in only 2 hours.



tinued indefinitely.

In use, the battery pack slips instantly into the HIP universal housing/connector that fits in a pocket, hangs on an accessory neck strap via rings, or slides on a belt with its self-contained loops. With its automatically polarized connection system, the HIP/BAP combination makes changing batteries as fast as changing magazines. Compatible with ACL and NPR cameras, the HIP is equipped with a standard 4-pin XLR connector.

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For more information about our new battery system, see your Eclair dealer, or write us. Eclair Corporation of America, 62 West 45th Street, New York 10036 (212) 869-0490 or 7262 Melrose Avenue, Los Angeles, California 90046 (213) 933-7182.

eclair corporation of america

CINEMA WORKSHOP



By ANTON WILSON

ELECTRIC CURRENT II

The cameraman traveling abroad can easily determine the local voltage by using a simple voltmeter. The frequency (either 60Hz or 50Hz) can be easily ascertained from local authorities or by using an electrical frequency meter that is available from most industrial electrical suppliers. Once the local voltage and frequency is known, the cinematographer must check his equipment and determine if a mismatch exists. The odds are that an American crew traveling in Europe or Asia (or vice versa) will encounter both a voltage and frequency mismatch. One should not fret, however, as there are several simple solutions to this mismatch problem.

Although there is basically no simple way to convert frequency, the difference (50Hz to 60Hz) in most cases, will have a negligible effect and can be ignored. The exception, of course, is with synchronous motors or other sync equipment. As stated previously, traveling crews should stick with governor motors/pilotone cable or crystal-sync and thus eliminate all frequency mismatch problems. With the frequency

problem out of the way, the prime concern is mostly matching voltages.

There are several different types of devices available to the cinematographer that will convert voltages. It is most important to understand that the type of voltage converter that should be employed is totally dependent on the type of equipment being used. A device that will match voltage for a lighting unit may not work at all for a battery charger. Basically, voltage-dropping devices can be broken down into two categories: transformers and diodes.

The diode voltage-dropper is becoming popular with gaffers. The most important thing to remember is that the diode device can be used *only* with lighting gear.

It cannot be used for battery chargers nor motors. When you see a little box (1½"x1½"x3") that weighs three ounces and sells for \$10.95 and claims 1000 watts of conversion from 220v to 110v, you can be certain it is a diode device. If it were a transformer device, it might have the same size and cost, but it would have a rating of only 25 or 30 watts at most. A 1000-watt transformer would be quite inconvenient—unless your grip happened to be King Kong.

The diode device works on a simple principle (see FIGURE 1). The diode is a rectifier that lets electric current pass only one way. The bulbs in the lights are designed to operate on 120 volts. FIGURE 1a shows the normal 120-volt 60Hz AC current. You can see that the 120 volts is actually an average (or root-mean-square) voltage rating. In reality, the current consists of sinusoidally alternating plus and minus 170-volt pulses.

In FIGURE 1b, the 240-volt current has pulses twice as large (double the amplitude). The diode lets through only the plus pulses and cancels the minus pulses. With the diode device, the pulses are still twice the peak of the 120 pulse (approximately 340 volts), but the diode cuts the number of pulses in half by eliminating every other one. Thus, these two facts cancel each other and you end up with an *average* of approximately 120 volts. This is a very nifty way to get 240 down to 120; small, light, cheap. There is a catch. Because

the diode lets through only plus pulses, the current is actually rectified to D.C. While this is fine for lights, obviously it is not compatible with any device designed for A.C.—such as battery chargers or motors. Normally, D.C. is desirable for lighting because it does not consist of the 60Hz pulsations that cause the "sing" which can be a problem on a quiet sound stage. The D.C. from the diode voltage-dropper, however, is *not* free of pulsations. As a matter of fact, the pulses are twice as big and half as frequent. The "sing" might be even more pronounced.

A crew that travels internationally might be wise to carry two sets of lamps, one 120v and the other 240v. This is the most convenient and economical way to go. For the occasional trip to a foreign country, the diode device is a simple and economical way to drop 240 to 120 for lighting purposes only.

A transformer is used for almost all voltage changing applications, either up or down, and does not affect the wave form of the current, other than changing the amplitude (voltage). Thus, a transformer device can safely be used on any type of equipment. The only thing you must check is the power rating in watts. If you use a transformer of insufficient power rating, the unit will heat up and possibly burn out. In addition, it will not put out the full rated voltage.

Since almost all professional motion picture cameras and recorders are battery operated, the battery charger is probably the most vital electrical device the cameraman will plug into the wall. Most battery systems that use separate chargers (Anton/Bauer, Eclair, etc.) employ a transformer-charger system with a 110/220 switch. In essence, the step-down transformer is built in. Most battery belts and self-contained battery systems (Cine 60, Anton/Bauer, etc.) use a capacitive charging circuit. These circuits, in most cases, do not have built-in provision for 110/220 operation. In addition, the capacitive system draws about 10 times more power from the wall than a transformer-type charger (on a 12-volt battery). As a rule of

Continued on Page 872

FIGURE 1

- (a) Regular 120 volt AC consists of plus and minus 170 volt pulses that average to 120 volts.
(b) Normally, 240 volt AC consists of plus and minus 340 volt pulses that average to 240 volts. The diode cuts this average in half (120 volts) by eliminating every other pulse (minus pulses).

FIGURE 1A

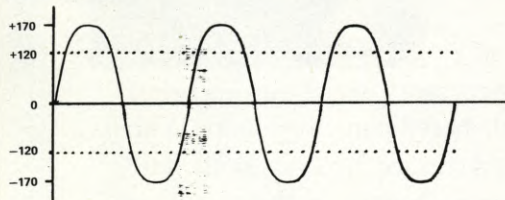
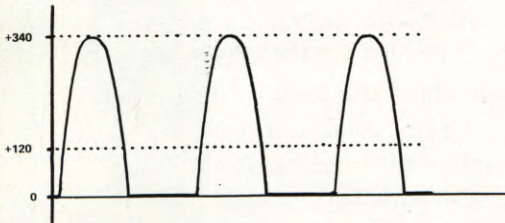


FIGURE 1B



“TV-newsfilm got the short end of the stick

until we got into the act...”



An Open Letter to the TV News Industry
from Ed DiGiulio, President of
Cinema Products Corporation.

When the TV news market first exploded on the scene in the early 50's, manufacturers of professional motion picture equipment **could not, or would not**, respond to the special needs and requirements of the new medium. It's almost as if they wished it would just go away and disappear.

And so, for the past two decades, this extremely important and large segment of the market for professional film cameras was served almost exclusively by “conversions” and “garage-shop” specials — usually incorporating used components.

Certainly TV-newsfilm got the short end of the stick until we got into the act in 1972!

Our CP-16's are the first truly professional 16mm sound cameras designed *specifically* to meet the demanding requirements of TV-newsfilm operations. We *pioneered* the crystal drive system, the plug-in battery, the built-in Crystasound amplifier, the fast-acting plastic magazine, and a host of other innovative features.

Of course you can buy cheaper equipment than ours. But, when you budget for new equipment, *keep in mind what it will cost you in the long run.*

Remember the *quality* built into our cameras, and the worldwide network of factory trained dealer/service organizations we have established for after-sales service.

Note that with every CP-16 you buy, you get a film clip and a test report. The *film clip* is a double-exposure steady test. The *test report* indicates that composite wow-and-flutter does not exceed .4% r.m.s.; frame line registration is accurate to within $\pm .002$ inches; lens flange depth is accurate to within $\pm .0005$ inches; and your camera, when pulling film, **does not exceed** 32 dB when measured 3 ft. from the front of an Angenieux 12-120mm zoom lens (on the weighted “A” scale).

That's what you deserve to know as a professional user. And that's what we give as the top professional supplier. *No one else does!*

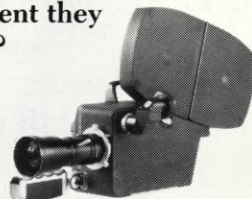
Remember. There are some **1500** CP-16's out in the field. This represents unprecedented user acceptance in little more than two years!

Key network freelancers such as Ron Eveslage, Skip Brown, Bob Peterson, Patrick O'Dell, Larry Travis, Jim Klebau, and many others, have all *bought* CP-16's and have already *traded up* to the newly introduced CP-16 *reflex*.

Remember. These are cameramen whose livelihood depends on the equipment they *own*. If they can afford to pay the price for quality, *can you afford to do less?*

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To help you evaluate the advantages of this new negative stock and our new processor, we will screen the free workprint with you. By testing and comparing, you'll get a first hand opportunity to see the different and better results. Call Bob Smith at DuArt for complete information.

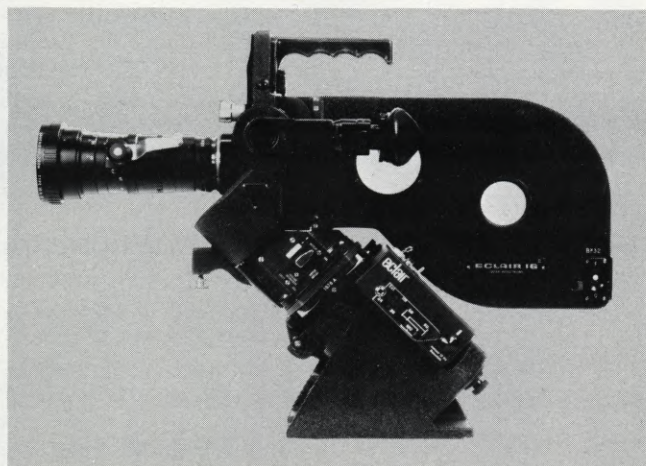


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These features have always made the Eclair NPR an easy camera to operate.

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HOW DIRECTORS DO IT

An in-depth study by Gerald Pratley, **THE CINEMA OF DAVID LEAN** (Barnes \$12.50) illuminates the director's cinematic sense and his gift to visualize ideas through lyrical symbols, dramatic contrasts or sweeping landscapes. Whether dealing with intimate situations (*Brief Encounter*) or mass emotions (*Ryan's Daughter*), Lean's mastery of the medium is probed in this perceptive, well-illustrated volume.

* * *

To its "Dialogue on Film" series, The American Film Institute has added **WILLIAM FRIEDKIN**, the transcript of a seminar where Friedkin discussed with remarkable lucidity and candor his approach to filmmaking in general and to the director's role in cinematic creation. Specific aspects of *The Exorcist* and *The French Connection*, ranging from cinematography to acting and special effects, were explored in a stimulating give-and-take atmosphere.

* * *

A Japanese director whose films were originally refused export licenses because of their "excessive Japaneseness" is discussed in **OZU, HIS LIFE AND FILMS** (U. of California Press \$14.50) by top expert Donald Richie. Ozu's cinematic style, working methods, philosophy and subject matter are thoughtfully documented and brilliantly interpreted as to their meaning and place in Japan's culture and art. Richie's critique of Ozu's films and his biographical filmography reveal the artistic strategies and concepts of the late director.

Willi Frischauer takes us **BEHIND THE SCENES WITH OTTO PREMINGER** (Morrow \$7.95), an exciting but perilous journey in view of the volatile director's temperamental outbursts and autocratic manner. The book is an attractive mixture of personal observations and well-publicized facts, skillfully arranged into a composite picture that is intimate, credible and eminently readable.

* * *

Volume Two in the series, **THE HOLLYWOOD PROFESSIONALS** (Barnes \$2.95), surveys the contribution to cinema art and history of three directors, unfailingly competent and often inspired filmmakers. Clive Denton writes about Henry King, renowned for *Jesse James* and *The Robe*; Kingsley Canham discusses Lewis Milestone, justly celebrated for *The Front Page* and *All Quiet on the Western Front*; and Tony Thomas appraises Sam Wood, remembered for *Goodbye Mr. Chips* and *Our Town*.

* * *

THE BOOKSHELF

By GEORGE L. GEORGE STAR-MAKING CAMERAMEN

In **THE ALICE FAYE MOVIE BOOK** (Stackpole \$9.95) by W. Franklyn Moshier, camera credit to such artists as Leon Shamroy, Joseph LaSelle and Peverell Marley indicates the type of photography that created the glamorous and buoyant image fans expected of their idols.

* * *

Malachy McCoy's biography of **STEVE McQUEEN** (Regnery \$7.95) offers a sharply observed portrait of a maverick actor whose complex personality is often reflected in his roles. McQueen's interest in filmmaking motivated the spectacular stunts of *Bullitt* and *Le Mans*.

* * *

"The untold story of Brando's private life" unquestionably lives up to its billing in **BUD: THE BRANDO I KNEW** (Delacorte \$7.95). Author Carlo Fiore, his sidekick, confidant, procurer and general factotum until a predictable falling out, tells the unvarnished truth (or a reasonable facsimile thereof) in an eminently readable and sometimes sensational exposé.

* * *

The historic development of the gangster cycle is surveyed in **THE GEORGE RAFT FILE** (Drake \$7.95) by James Robert Parish with Steven Whitney. The actor's underworld connection, his "tough guy" reputation are anything but soft-pedaled in this chronicle that links the realistic photographic style of his films with the violence of his early life.

* * *

It was cameraman Leon Shamroy who shot the successful screen test of Marilyn Monroe. This, and other intimate and often bizarre circumstances, are recorded in Robert F. Slatzer's **THE LIFE AND CURIOUS DEATH OF MARILYN MONROE** (Pinnacle-Two Continents \$8.95). Her alleged liaison with the Kennedy Brothers, her purported two-day marriage to Slatzer, and instances of markedly neurotic behavior are among the disclosures of this hard-to-believe account.

* * *

But for a truer picture of Marilyn Monroe, painted by herself in her own words, read her memoirs, **MY STORY** (Stein & Day \$5.95). Unmistakably sincere, disarmingly naive and obviously authentic, the book reveals Marilyn's most private thoughts and feelings, and give the human dimensions of a woman

so many still consider only as sex object.

* * *

HOW TO AND WHY BOOKS

The study of motion picture progress is enlarged by the availability, in reprint form, of two volumes covering a broad range of technical subjects. Originally issued by the A.S.C., **CINEMATOGRAPHIC ANNUALS 1930 and 1931** were compiled by Hal Hall, then editor of *The American Cinematographer*. Their texts afford a significant view of production achievements in cinematography, wide film, lighting, color rendition, make-up, art direction, dubbing and general esthetics in 70 articles by leading experts of the period. (Arno Press, 2 vol., \$65.).

* * *

In the same Arno Press series, "Literature of Cinema", two early technical books offer an invaluable historic perspective on film projection. C. Francis Jenkins' **ANIMATED PICTURES** is an 1899 summary of the Armat and Jenkins' "phantoscope" employed, in the author's words, "in the entertainment of large audiences by means of projecting lanterns to give the appearance of motion." Similarly, Cecil M. Hepworth's **ANIMATED PHOTOGRAPHY**, a 1900 publication, describes projection procedures of the time, as well as production, photography, developing and film care. (\$5. ea.)

* * *

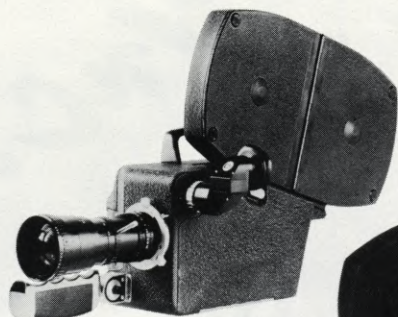
Written in the white heat of justifiable anger, **FINAL CUT** (Continuum-Seabury \$7.95) is director Paul Sylbert's blistering account of what happened to his film, *The Steagle*, and himself at the hands of producer Joseph E. Levine. Still seething from the indignities inflicted by the producer on his creative and professional activities, Sylbert's indictment itemizes these assaults which culminated in the film's emasculation with Levine's exercise of his right to "final cut." This right, vested as it is now with the producer instead of the director, is the demonstrated cause of many screen disasters.

* * *

Three new volumes in the excellent Filmguide series, Renoir's **THE RULES OF THE GAME** (Gerald Mast, ed.), Olivier's **HENRY V** (Harry M. Geduld, ed.) and Pontecorvo's **THE BATTLE OF ALGIERS** (Joan Mellen, ed.) include a detailed analysis of each film, a summary of its critical reception, and relevant biographical data. Each introduces the student to an appreciation of the film's message and techniques, and provides a guide to further research. (Indiana U. Press, \$5./1.75 ea.) ■

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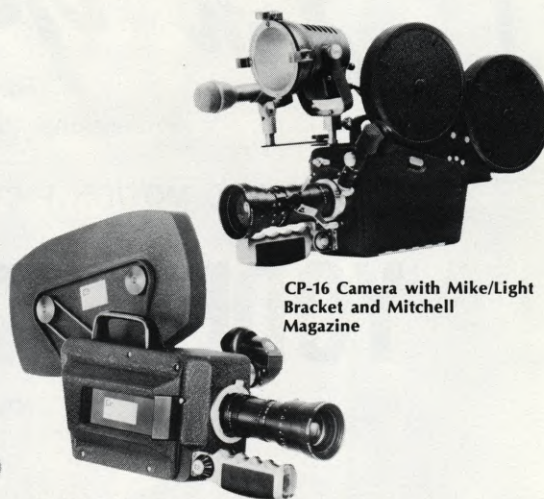
SYSTEM
CP-16



CP-16R/A Reflex Camera with PLC-4 Magazine



CP-16/A Camera with PLC-4 Magazine, RE-50 and CP headset

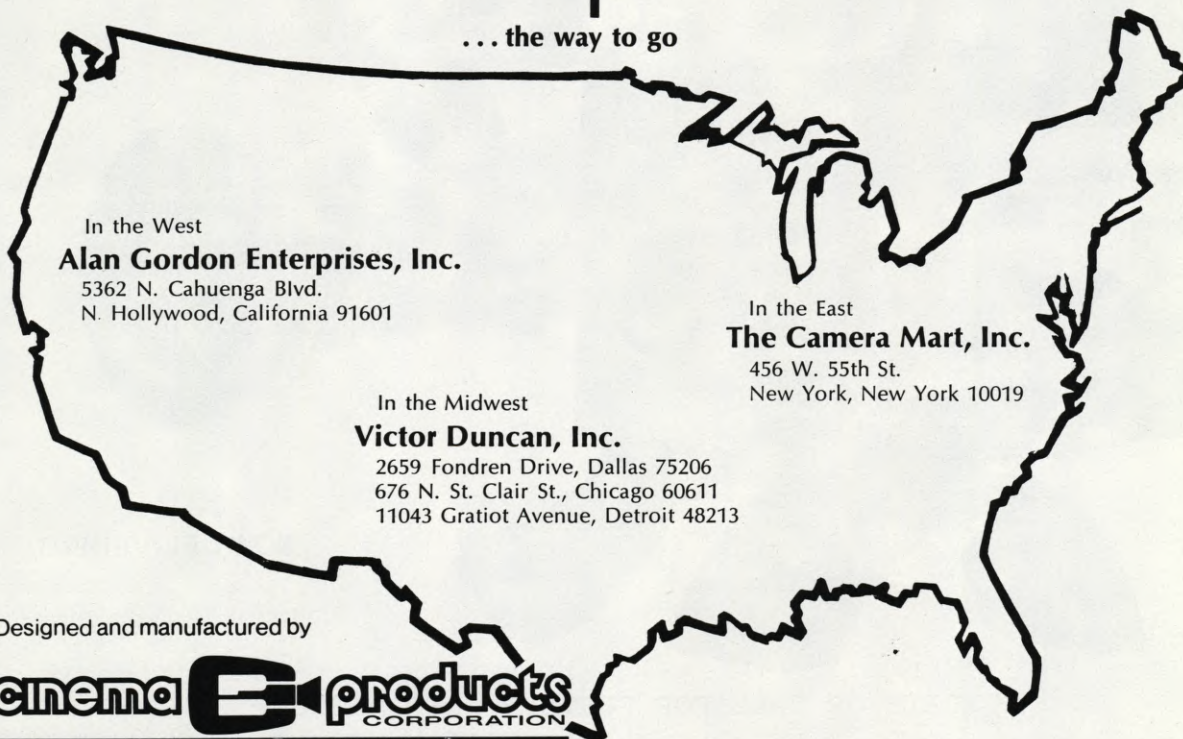


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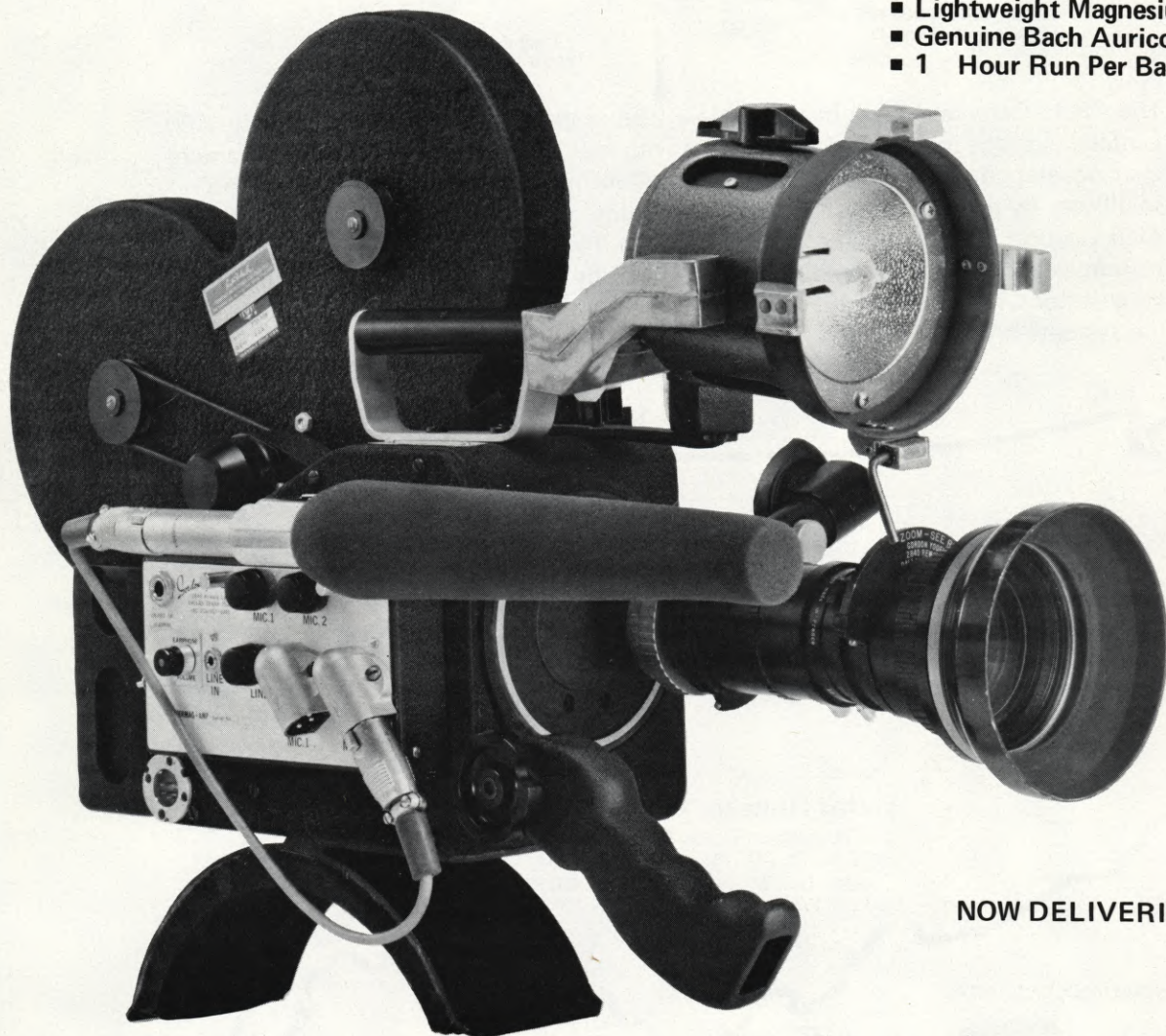
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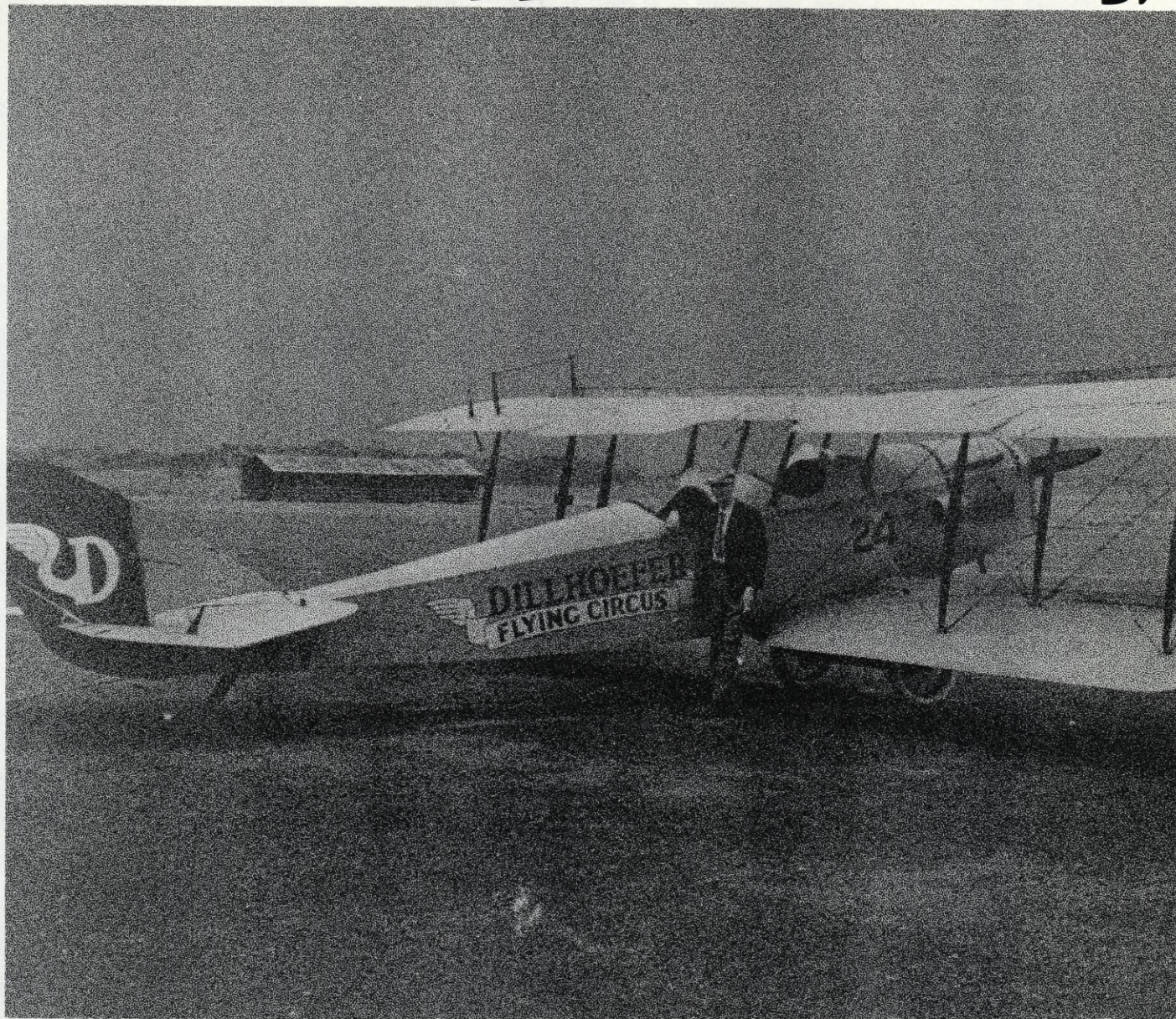


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THE HONOR ROLL



FARCIOT EDOUART, ASC

Farciot Edouart was born in California. His grandfather was a portrait photographer and his father a portraitist, as well. With this background it was only natural that Edouart should become interested in photography as well.

Of course, when it came time to select a job, he chose the most modern form of photography—the cinema. In 1915 he went to work as an Assistant Cameraman in the Realart Studio in Hollywood.

During the next two years, he worked his way up the line until America entered the First World War.

Farciot had studied photo lab and experimented in color photography and at the age of 16 had exhibited his color Bromoil transfer prints in national photo expositions and had continued to enlarge on his expertise in color, color- rendition and filtering (of which he had made a special study) and he put all this knowledge at the disposal of the Camouflage Division of the Army Engineers. Having already received a commission in the service through examination, he boarded the train for Washington. While in transit a departmental reorganization took place and all the Army's photographic work was centralized in the Signal Corps. When Edouart arrived in Washington, he found himself without rank as military red tape prevented his transferring to the Signal Corp with the rank he had been promised in the Engineers.

As a buck private he was sent to the Signal Corps' school of cinematography

at Columbia University, where, after an eleven week course, he was kept on at the University as an instructor. After watching his pupils go on into active service, he finally secured his own transfer to more active duties, and was assigned to the 78th Division as Chief of the Division's Photo Section, sent overseas and promoted to Sergeant. From then on until the Armistice, he saw enough action to suit anyone, for the 78th was at the front most of the time, participating in such offensives as St. Mihiel, Grand Pré, and others, first as an American unit brigaded with the British forces, and later as a unit of the A.E.F.

The division moved out of the front lines just before the Armistice. Edouart was in Paris to see to the development of his films and was on the spot for the most riotous of November eleventh celebrations in 1918. He received his discharge from the Army and was given a lieutenant's commission in the Red Cross as a special cinematographer, and was sent to Germany as an official of the Armistice Commission where he had the interesting task of making motion pictures of the demilitarization of much of Germany's military plants and industry before returning to Paris.

Back in Hollywood he was ordered to take a two week vacation before returning to work when he was urgently requested to return to Paris to take complete charge of the Red Cross' motion picture work there at any price. With a Major's commission and an extremely good salary he returned to Europe to bring order out of the chaos in which the thousands of feet of historical film had been left.

He returned to Hollywood in 1921 to marry and settle down in his own successful photographic business. He was finally lured back into studio work at Lasky's where his knowledge of photography, color- rendition and painting proved to be invaluable to the making of the shots which involved photographing a scene through a large pane of glass upon which was painted whatever was necessary to complete the actual portions of the set.

Eventually Edouart found himself heading a special department of his own. He pioneered several processes for making composite shots by the complementary-color method. This was a

tricky method and difficult to use and, therefore, when panchromatic film, faster lenses and more powerful projection lights made it practical, many "trick" specialists began to experiment with a process of projecting the background-film onto a translucent screen behind the actors and rephotographing the actors and the projected images with the foreground camera synchronized with the background-projector. Edouart was the second to employ it.

Edouart is credited with earning three Class II Scientific/Technical awards, four Class III Scientific/Technical awards, one Special Technical Award for Outstanding Achievement and two Special Photographic Effects awards for Paramount. He has also received seven further nominations for Special Photographic Effects and Special Visual Effects. In a letter to Edouart, Daniel Ross writes: "Your record is one of the most distinguished we have seen in this office. It is truly a rare pleasure to associate with men of your caliber, but I wonder how many people whose livelihood and source of major entertainment depend upon the movies, realize what a pioneer you have been. When complaints are made that motion pictures just aren't what they used to be, I think the reason must be that men like you aren't making enough of them any more."

He joined the Academy of Motion Picture Arts & Sciences and became one of the Academy's most dedicated members. He has served eleven terms on the Board of Governors, on the Research Council and as chairman of the Cinematographers Branch Executive Committee, Cinematography Award Rules Committee, Scientific or Technical Awards Committee, Special Visual Effects Award(s) Committee, and Special Effects Awards Committee.

He has been a member of the S.M.P.T.E. since 1932 and a member of the American Society of Cinematographers since 1933 and has serviced on its Board of Governors and as Chairman of its Research and Educational Committee.

He is now retired from Paramount after 52 years of service to that company and its forerunners. Edouart now spends a good deal of his time rendering various services to his fellows in the industry when they are in need of help.

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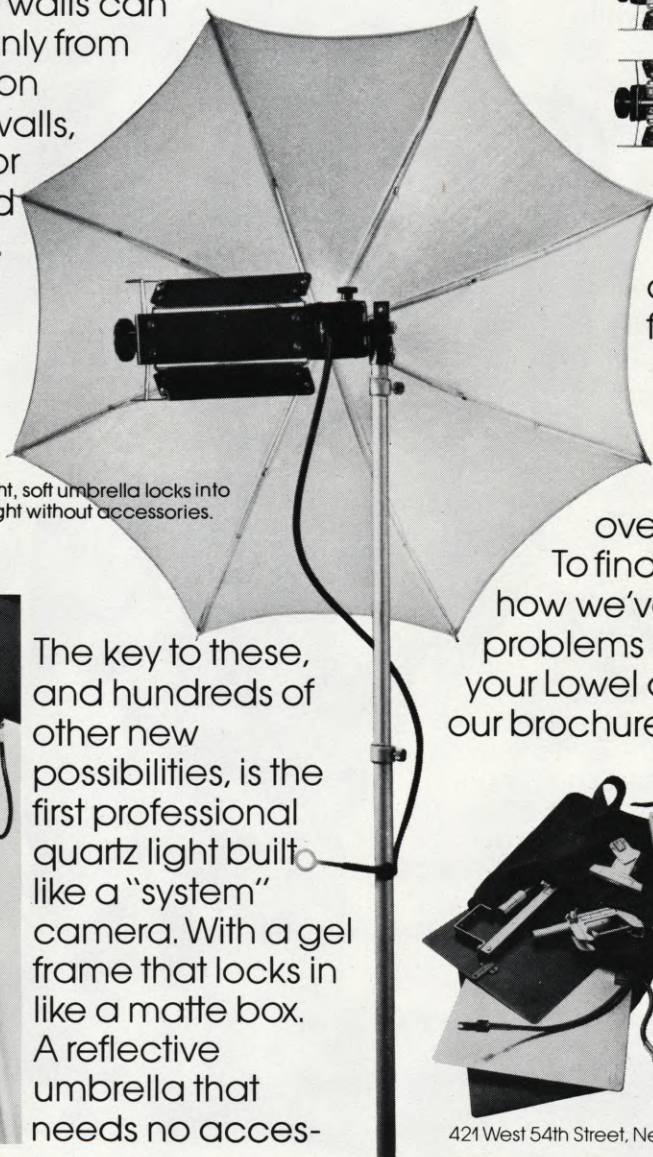


Locks atop doors, open or closed: flags control light precisely.

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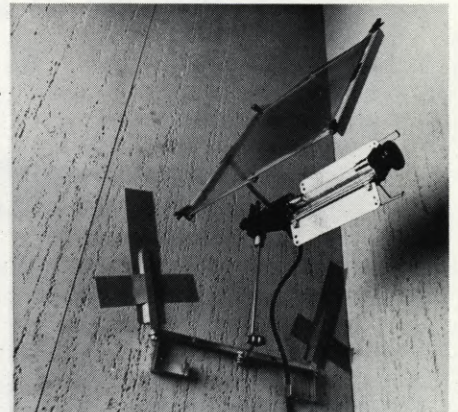
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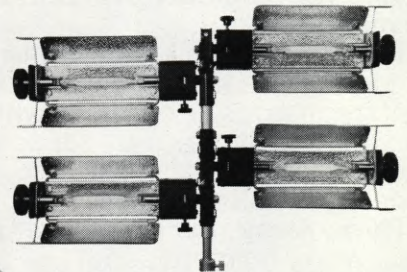
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or manual exposure, filming speeds from 12-54 fps, including single frame and full backwind capability for controlled double exposure and lap dissolves, plus a REAL PRESSURE PLATE, not available in cartridge load cameras.

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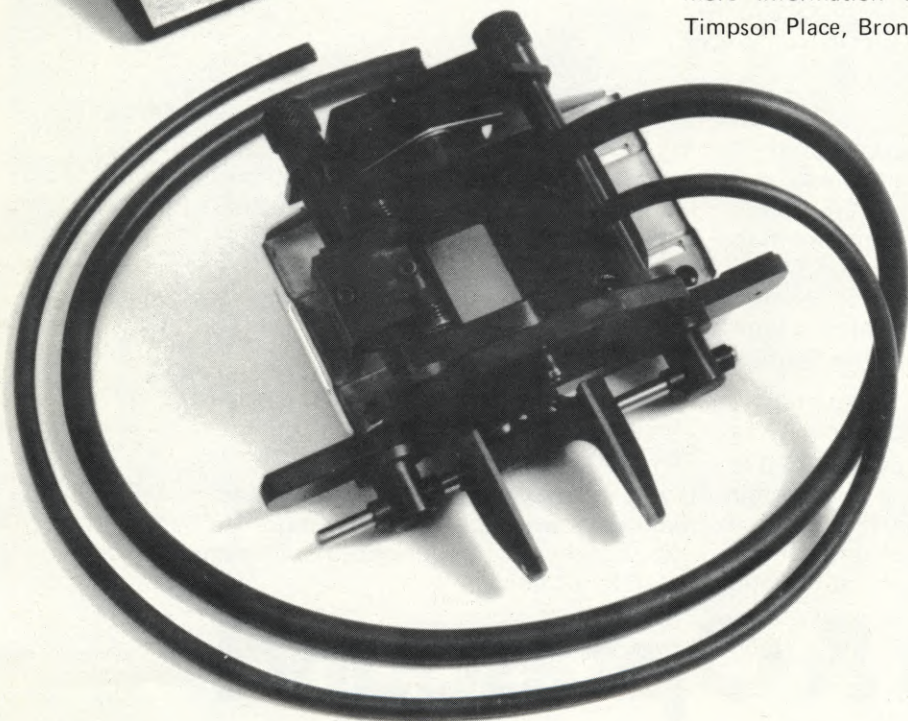
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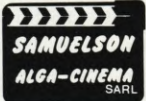


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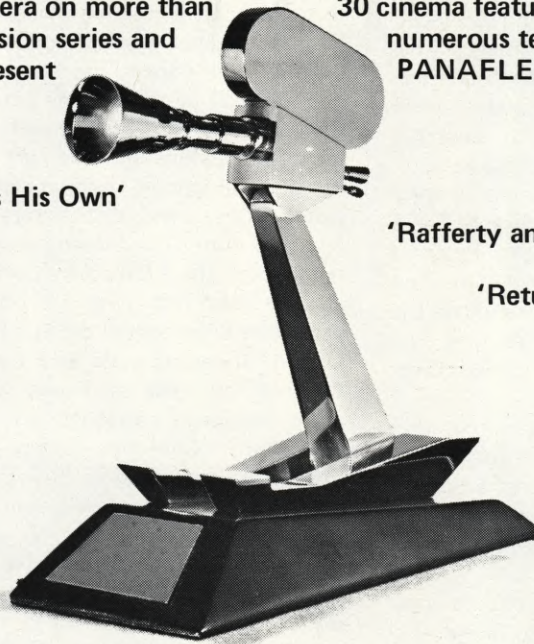
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INDUSTRY ACTIVITIES

TWO A.S.C. DIRECTORS OF PHOTOGRAPHY HONORED WITH "EMMY" AWARDS BY TELEVISION ACADEMY

At the recent 26th annual Emmy Awards ceremony of the National Academy of Television Arts and Sciences, held at the Hollywood Pantages Theatre, two members of the American Society of Cinematographers were awarded golden statuettes for outstanding achievement during the past year.

The award for "Best Cinematography for Entertainment Programming For a Special or a Feature-length Program Made for Television" went to Ted Voightlander, ASC, for his work on the CBS Special, "It's Good to Be Alive".

Voightlander was also voted "Cinematographer of the Year".

The award for "Best Cinematography for Entertainment Programming For a Series or a Single Program of a Series" went to Harry Wolf, ASC, for his work on the "Any Port in a Storm" segment of the "COLOMBO" series.

The members of A.S.C. extend their heartiest congratulations to these two gentlemen for their outstanding achievement.

SMPTE SETS FALL CONFERENCE IN TORONTO

SMPTE heads north of the border this fall for its 116th Technical Conference and Equipment Exhibit. The dates

The Emmy Award for "Best Cinematography for Entertainment Programming for a Special or a Feature-length Program Made for Television" went to Ted Voightlander, ASC for the CBS Special "It's Good to be Alive".



are Nov. 10 through 15 and the site is the all-new Four Seasons Sheraton Hotel in Toronto.

This is the first time since 1961 that SMPTE has journeyed to Toronto for its semiannual conference, though, since that time, two meetings were held in Montreal. The history of Canadian SMPTE Conferences has been a bright one, with all of them being outstanding successes, both in the quality of the technical sessions and the participation in the equipment exhibit of major manufacturers and distributors of professional film and TV equipment. Attendance at these Canadian meetings has always been high and this one is expected to draw record crowds from the United States, Canada and from such far-flung outposts as Japan, Australia, most European countries, and Russia. Canadian Conferences are always marked by unending enthusiasm of the Canadians. They deserve their reputation for hospitality and congeniality. It's no wonder that the SMPTE looks to this Toronto Conference with great expectations.

The responsibility for the Conference is in good hands. SMPTE Editorial Vice-President Gerald Graham, himself a Canadian with the National Film Board of Canada, has ultimate responsibility for the technical papers program. He has appointed Maurice French, Canadian Broadcasting Corp., as Program Chairman, a tough job in which he must put together a strong 5-day papers program combining many diverse areas in motion-picture and television technology. Graham expressed confidence that French will, like his predecessors, take advantage of this opportunity to make this Conference Program a memorable one. Assisting French as Associate Program Chairman is Harold Eady, Bonded Services International.

SMPTE Conference Vice-President Harry Teitelbaum, Hollywood Film Co., has appointed Alex MacGregor, O.E.C.A., Local Arrangements Chairman. This job requires the supervision of all details and arrangements of the Conference not having to do with the papers in the program. Teitelbaum, who has final authority for all SMPTE Conferences, voiced great faith in MacGregor, and the Arrangements Committee under him. The Canadians have always put on a good show.

Information on this Conference is available from SMPTE Headquarters, Att: Conference Dept., 862 Scarsdale Ave., Scarsdale, N.Y. 10583.

FIFTH ANNUAL SUMMER FILM INSTITUTE AT KENT, CONN., AUGUST 10-25

The fifth annual Kent/AFI Summer Film Institute will be held in Kent, Connecticut, August 10-25. Limited to 60 participants (who in the past have come from virtually every state in the union, including Alaska and Hawaii), the Institute is an intensive 180-hour-class course covering three major areas: 1. Film History/Criticism, 2. Filmmaking, 3. Film Studies in the Schools. Deadline for applications is June 30.

Once again the Film History unit will be led by three well known critics. Edmund Fuller will offer a unit on British Comedy in Cinema. Mr. Fuller is the literary critic for THE WALL STREET JOURNAL and the author of several critical studies in literature and more than a dozen novels. Michael Kerbel, a contributing film critic to THE VILLAGE VOICE, will offer a unit on Gangsters and Getaways. Mr. Kerbel is the author of a soon-to-be released critical study of Paul Newman, and is a professor of cinema at the University of Bridgeport. Mrs. Jeanine Bassinger, lecturer in film at Wesleyan University, will offer a unit on The American Musical. Mrs. Bassinger is soon releasing a major book on the musical in America.

Professor Warren Bass, chairman of the department of cinema at the University of Bridgeport, will return for his

Continued on Page 863

The Emmy Award for "Best Cinematography for Entertainment Programming for a Series or Single Program of a Series" went to Harry Wolf, ASC for the "Any Port in a Storm" segment of the "COLOMBO" series. (Photographs by BILL AVERY).



Eclair people.

Michael Livesey "sees" with Canon, shoots with Eclair and "walks" around the world.

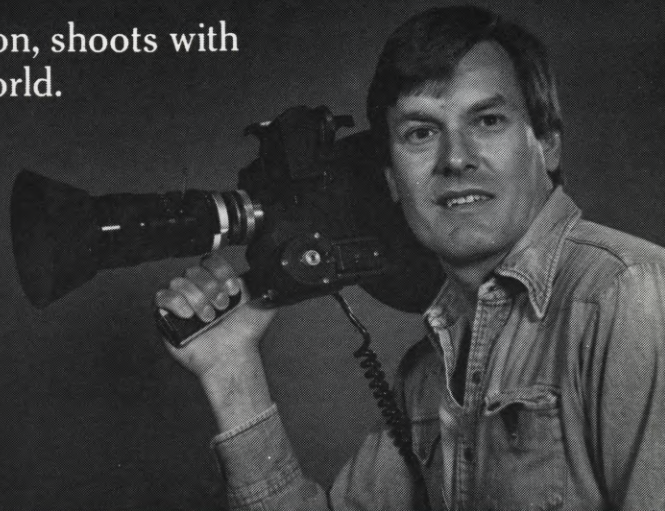


Photo by Richard Hunter

*A "moderately busy 'walk-around' cameraman" is what he calls himself. But it's an understatement. Working better than fifteen days a month, sometimes on six or more jobs, Livesey counts the countries he *hasn't* visited on his fingers.*

"Racing from one assignment to another demands as much from my gear as it does from me. Everything must fit under an airplane seat, yet be reliable enough to go from job to job without the luxury of takedown and repair. The Eclair ACL and Canon 10x12 fit these requirements rather nicely, permitting enormous flexibility in shooting style as well."

Between documentaries, features and commercials, Livesey has visited every state in the union numerous times. Often accompanying pop and rock stars on whirlwind concerts.

"Most people call my specialty 'hand-held' — but it's 'walk-around' when you cover a mile or two during a shoot as I do. After a trek like that,

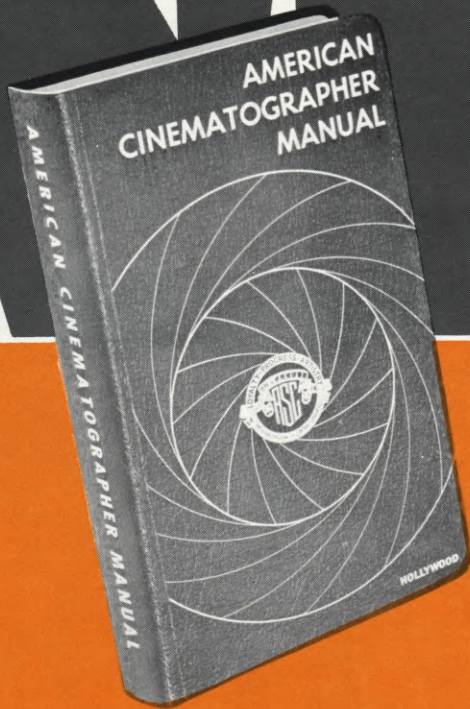
you really appreciate the lightness and compactness of the Eclair/Canon combination. It shows in the results — always sharp and steady, whether breathing down a performer's neck at 10mm or zooming smoothly to 120, capturing a fan's reaction. Apparently I'm not alone. At concerts literally bristling with cameras, it's rare to see any other camera being used. And as far as lenses go, Canon's new fluorite coating has produced a raft of 'converts.'

"I work for people who depend on me to do a job, every job. And I can, because my equipment never does a 'job' on me."

For more information about Eclair cameras and Canon lenses, please call or write: Eclair Corporation of America, 62 West 45th Street, New York, N.Y. 10036 (212) 869-0490, 7262 Melrose Avenue, Los Angeles, California 90046 (213) 933-7182, Telex: 14-7208.

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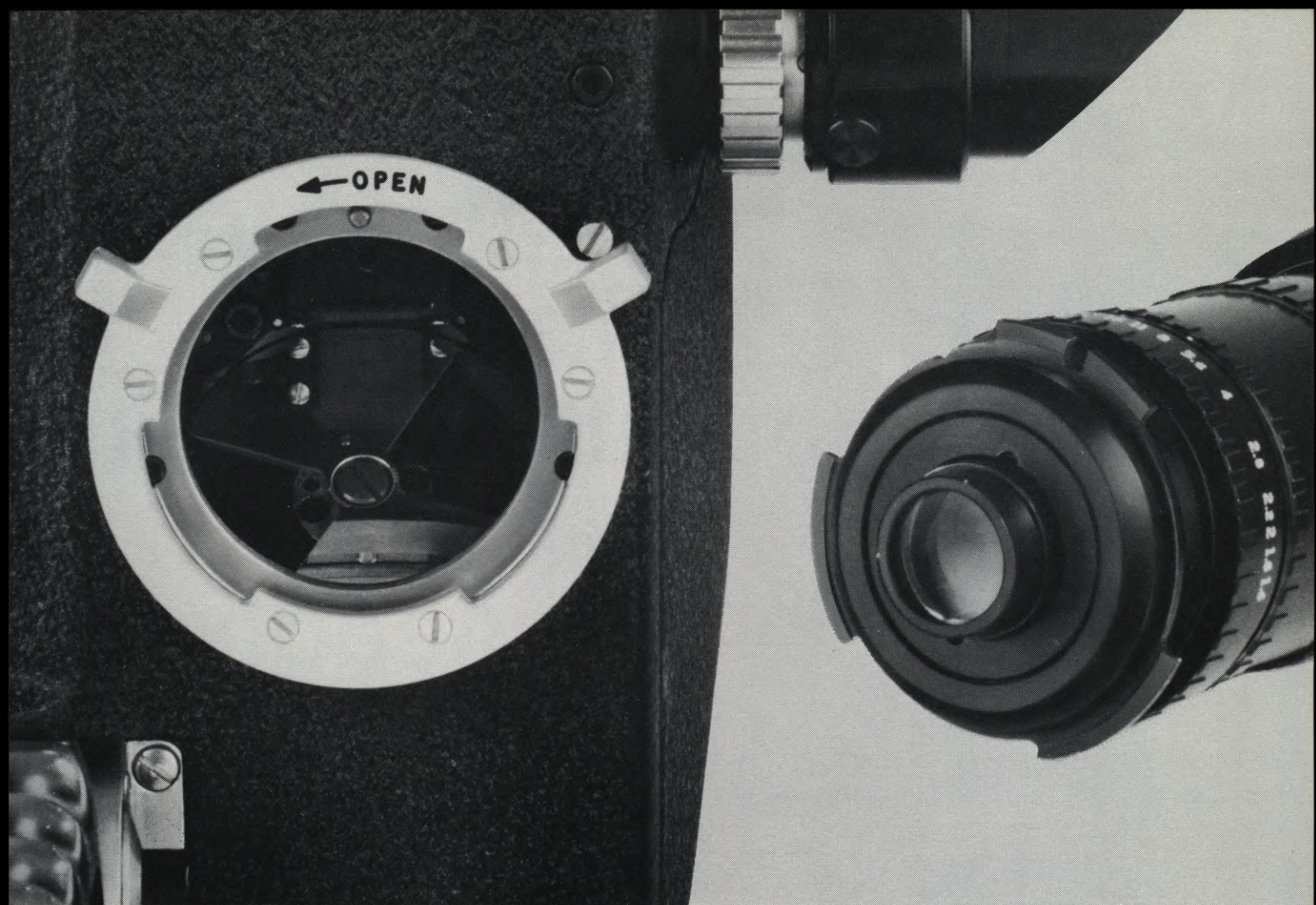
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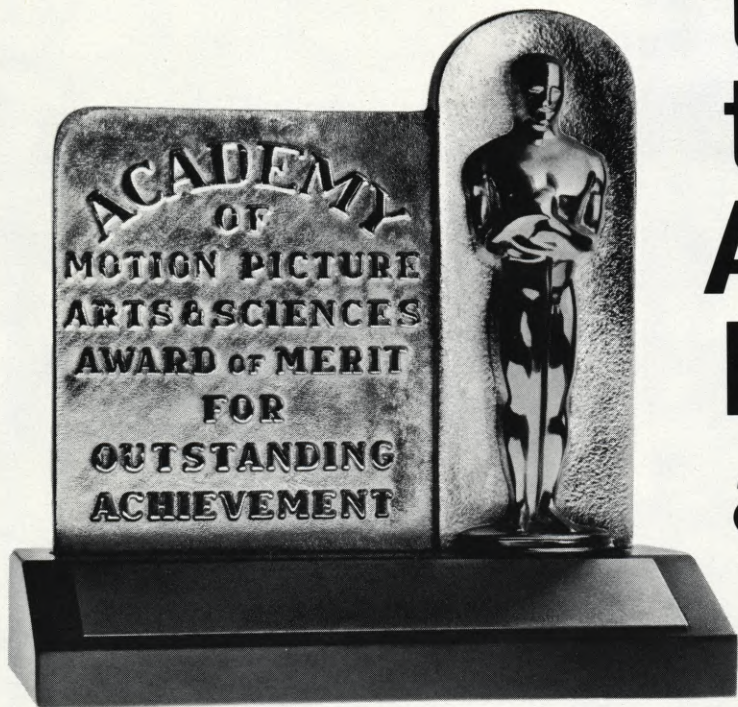
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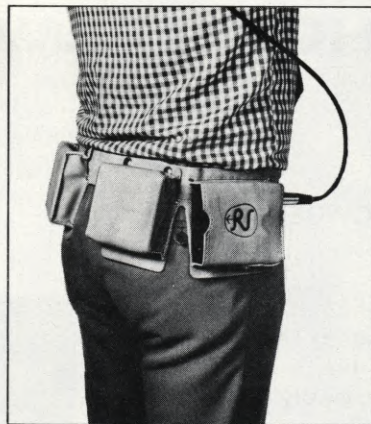
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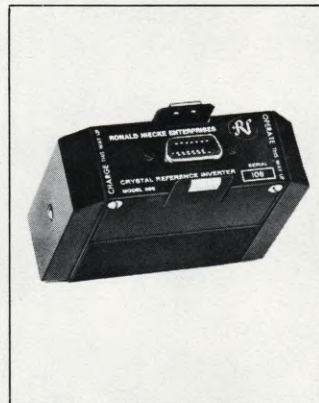
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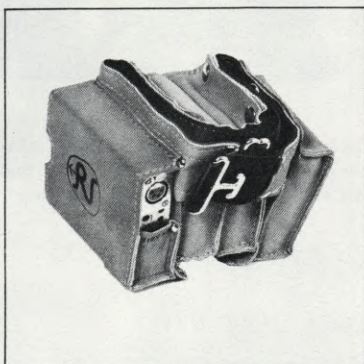
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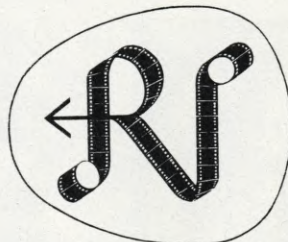
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UFO TARGET EARTH

AND HOW IT WAS FILMED

Ambitious first feature, filmed with the Arriflex 35BL, is a science-fiction thriller with computer-generated "aliens" from outer space, an eclipse and a phantom comet

By JERRY CROWDER

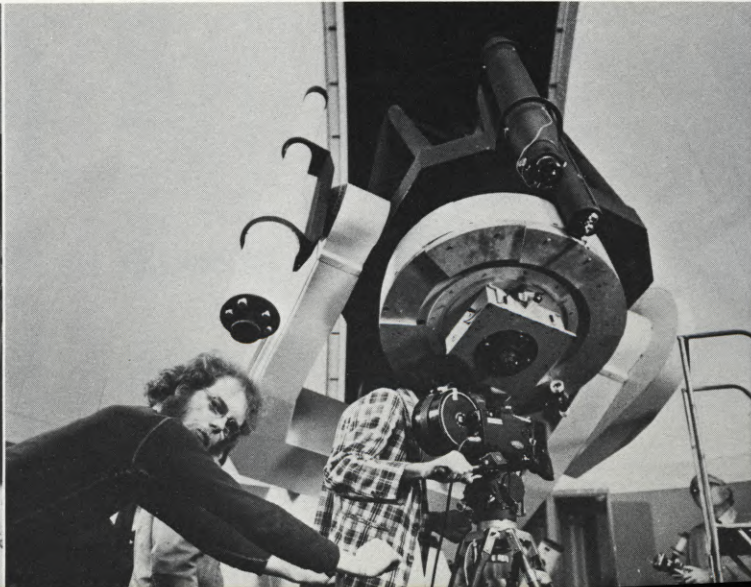
Director of Photography

When producer-director Michael A. de Gaetano assembled UFO; TARGET EARTH as his first motion picture venture, he had originally conceived the project as a small-budget film which would explore the relationships of mythology versus technology on a psychological level. These confluences upon the human mind, as presented in a visual form, offered some challenges to our director. He approached Dan Sandin and Tom de Fanti, whose experiments in image processing at the University of Illinois piqued his interests. Although they had been experimenting for three years in analog-programmed image-processing techniques, this was the first time an opportunity had arisen wherein they could employ some of their ideas within a dramatic context. The results of this particular interaction between technology and creativity can be seen on these pages. As opposed to the slit-scan process, the actual rendering of the design information occurs immediately and is recorded on 2-inch video tape. There was no filmic time involved. Sidereal time and film time were the same.

UFO: TARGET EARTH was the first opportunity for us to try the new Arri 35BL on an extended film project. The small crew and short 14-day shooting schedule, all on location, would have been impossible with any other camera. (Except, of course, the then-unavailable Panaflex.) Most of the locations were cramped, but because of the size of the BL, we were able to use our Colortran dolly. We filmed in compact Dodge vans full of electronic equipment, tents, narrow hallways and other cramped rooms. Even in most of the really confined locations we were able to get good
Continued on Page 830



(ABOVE RIGHT) A scene from UFO: TARGET EARTH. Tom Arcuragi (Dr. Rivers) and Cynthia Cline (Vivien) look on and Nick Plakias (Alan Grimes) views monitor as alien takes humanoid form in attempt to communicate. (BELOW LEFT) Brian Roy, in van with Arriflex 35BL, shooting Hewlett-Packard Corporation's XY Plotter. (RIGHT) Producer/Director Michael A. de Gaetano sets up shot at Fernbank Science Center Observatory, while Grip Bill Fibben pushes Kostigkan dolly.





(LEFT) Cameraman Nick Nizich, with 16mm Arriflex camera on an equatorial mount during the eclipse shoot in Costa Rica. (CENTER) Assistant cameraman Bob Libby views eclipse during mid-annularity through two exposed sheets of 4 x 5" black and white film to protect his eyes from the infrared rays of the sun. (RIGHT) Libby checking camera position during annular eclipse. Motor drive for the equatorial mount is visible on the right.



(LEFT) The expedition campsite at Playa Flamingo, Costa Rica. (CENTER) Director-Producer Michael A. de Gaetano with camera crew on location in Georgia. (RIGHT) Christmas Eve in Liberia, Costa Rica. After the trials of the first 72 hours, the expedition members had time to relax at their lush, tropical campsite at Playa Flamingo, a private beach club on the Pacific coast of Costa Rica.

(LEFT) "Eclipse King", Dr. Donald Menzel led the eclipse expedition to Costa Rica last December. (CENTER) Nick Nizich shooting the eclipse with a Micro-line Sun Filter, which reflects the ultra-violet, visible and infrared solar energy in order to protect the cameraman's eyes. It also keeps heat out of the telescope optics. These filters have density factors of 5.0-0.001 percent transmission and the one shown here was the 4-1/2" size. (RIGHT) Expedition photographers seen setting up for an early morning shoot at Playa Flamingo.



(LEFT) Dan Sandin processing a computer-generated image in his Chicago laboratory by means of his Image Processor. As the Image Processor is fed by a patch from the camera, the tuning knobs on each module permit control of value changes during the processing of the signal. (CENTER) Live subject in Sandin's lab, from whose features an unlimited number of altered images can be computer-generated. (RIGHT) Sandin and his "black wall of spaghetti."



ON LOCATION WITH The Tamarind Seed

Globe-trotting Editor joins "family" to observe shooting of spy-adventure feature filming in Barbados, London and Paris

By HERB A. LIGHTMAN

LONDON

The long polar flight from Los Angeles seems amazingly short this time—partly because I am *en route* to my favorite city, London, but mainly because I'll soon be joining several of my favorite people. The occasion: the second phase of filming on "THE TAMARIND SEED", an espionage-intrigue adventure produced by Ken Wales, directed by Blake Edwards, starring Julie Andrews and Omar Sharif, and photographed by Freddie Young, BSC.

It had all started in Hollywood several weeks before when Ken Wales, calling from London, told me: "Blake asked me to call you. He's getting ready to shoot 'THE TAMARIND SEED' and he and I and Julie want you to be with us during the shooting, because you're part of the family. Blake says it won't be the same if you aren't here."

A very flattering invitation, but one that I know to be sincere. After the lengthy (and very happy) time spent with these very special people during the filming of "WILD ROVERS" (see *American Cinematographer*, July 1971), I do, indeed, think of them as "family". The extra dividend is the fact that Freddie Young will be photographing the picture. I haven't been on a shoot with him since the filming of "RYAN'S DAUGHTER" in Ireland, and that's been quite some time ago. It all adds up to an offer I can't refuse.

"We'll start shooting in Barbados," said Ken. "We'd like you to join us there and then return with us for further shooting in London and Paris."

He gave me the shooting dates. Problems. I have to be in Japan just at the time they'll be shooting in Barbados. "But I'll catch up with you in London and Paris," I promised.

The jumbo 747 glides onto the runway at London's Heathrow Airport. There is a limousine waiting and a note from Ken telling me to check into my hotel and then rejoin the driver, who will take me to the location where the company is shooting.

The location turns out to be Heathrow Airport, whence we have just come, and we ride out there again.

Threading my way through the bustling terminal, I finally come upon the company shooting a scene on the "people mover" in the long concourse that leads to the boarding gates. Ken and Blake and Julie and Freddie take a moment out to extend a warm welcome. Then it's back to the shooting again.

The scene is one of those complex things that has to be orchestrated very carefully. Julie Andrews, supposedly being followed by an alien spy, rides the moving platform. The camera operator, hand-holding an Arriflex mounted on a curious shoulder rig, rides along with her. Freddie has placed a very few lights

along the way to augment the available light coming in through the windows.

Several takes are made with the action continuing the full length of the concourse. Then it's "in the can" and the equipment is struck to move to the next location, which turns out to be the security lounge.

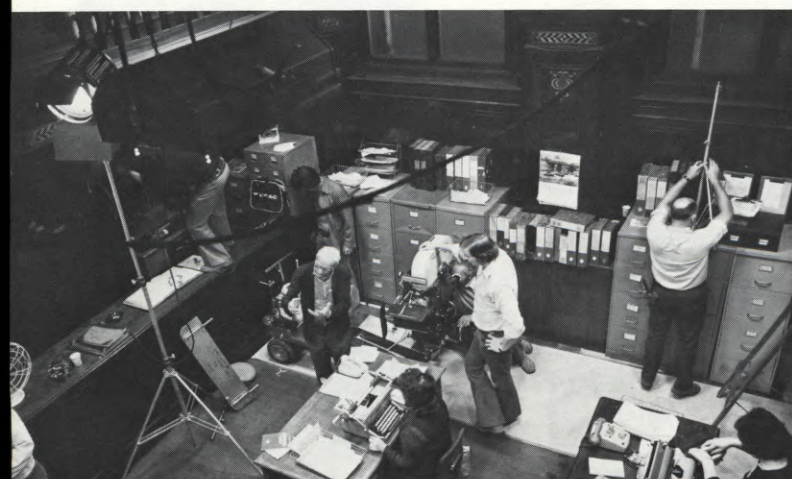
While they're setting up, the jet lag finally piles up on me. I decide to lie down on a couch for a few moments—and promptly fall asleep. While I'm flaked out (as it later develops), some joker borrows my camera and takes a

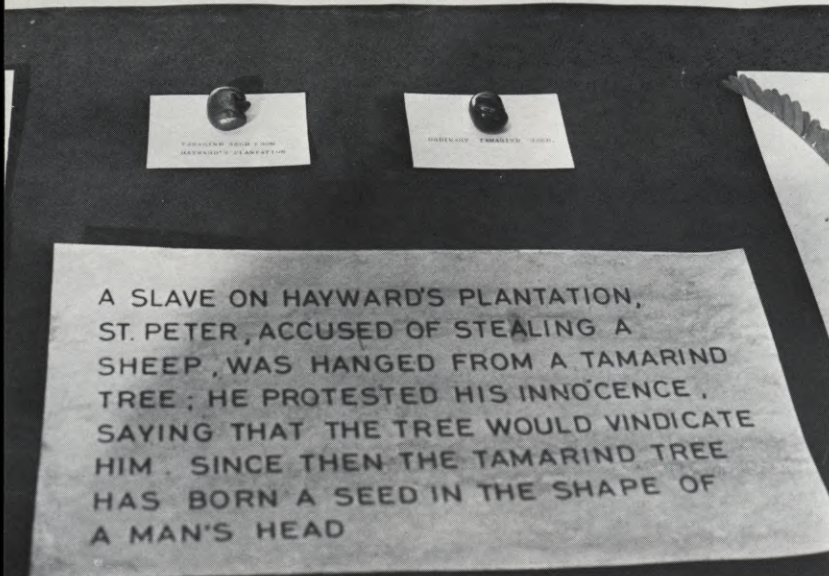


picture of me curled up like a dormouse.

I wake up just as they are about to make the first take. Again, it's a complicated scene. The camera, mounted low on a dolly, rolls as the security guards paw through the hand-luggage of passengers about to board. Julie moves through the metal detector gate, followed closely by the spy. He is detained

(LEFT) In the lower level of a wonderfully atmospheric old fortress of a building at 47 Parliament Street in London, the crew of "THE TAMARIND SEED" sets lights and camera in preparation for shooting. Formerly occupied by government bureaus, but happily untenanted at this time, the structure provided many "sets". The project is a Blake Edwards Film, a Jewel Productions Ltd. and Pimlico Films Limited production for Avco-Embassy release. It will open at the Radio City Music Hall later this year. (RIGHT) Director Blake Edwards views set-up prior to shooting.





(LEFT) In the glass case of a museum at Barbados, a curious fact is documented—as witness the “legend” explained here. (RIGHT) A close shot of the mutated tamarind seed in the shape of a man’s head. This seed becomes a symbol to the protagonists and serves as a form of silent communication between them. The film stars Julie Andrews and Omar Sharif.

by the guard (and foiled in his pursuit) when a toy pistol is found on his person, slipped into his pocket by a protective counter-spy.

The scene is shot in a couple of takes, and it’s a wrap. That night, at dinner, Ken fills me in on the project at hand. “Blake is directing ‘THE TAMARIND SEED’ from his own screenplay based on the novel by Evelyn Anthony,” he tells me. “Because the picture is being made under the British Quota (EADY) Plan, it’s been necessary to change the locales of the picture from those in the book. In the book, the character played by Julie Andrews lives in New York and works at the United Nations, where she handles classified information. The center of international diplomacy is Washington, D.C. In the picture—so that we can take advantage of what Europe offers, New York has been changed to London and

Washington has become Paris.

“This is an all-location picture, with nothing being shot in the studio. That, of course, has become the trend in current production, given a lift by the advent of the Cinemobiles. We’re using Samuelson’s ‘Sam-Mobile’. It’s a fine, well-equipped vehicle and we’re very happy with it. The main idea of location filming is to get out of the studio, but getting out of the studio does not solve all of the problems. There is a lot to be said for shooting certain things in the studio—which points up the fact that there’s no one really perfect system. You have to glean the best from all of them. Shooting an all-location picture means that you aren’t saddled with studio overhead, which, in Hollywood, amounts to 25% of the total budget. On the other hand, when you’re shooting an all-location picture, you don’t have the readily available facilities that are so

convenient in a studio. You have to scrounge more. You can’t simply call upon the staff labor of the studio, either; you have to put together your own crew. Of course, this can also be an advantage, if you hand-pick your crew for their special skills and the best working morale.

“Location filming is a mixed blessing at best. Many times, on this production, we’ve longed to be able to move a wall, but when you’re shooting in a hotel room or an office building you simply can’t move any walls. You have a terrible time lighting in some cases, because you don’t have the grids or balconies to light from. I would say that while you gain in some areas, you definitely lose in others. On an all-location picture the locales may be exciting, but it can be terribly frustrating getting permission to shoot in certain places, what with people changing their minds

(LEFT) Minus his usual Video West electronic remote viewfinder and replay facility, Director Blake Edwards wraps himself around Panaflex camera mounted on the hood of an automobile which will shortly take a spin about the park during filming of a scene involving the two men in the front seat of the vehicle. Famed Director of Photography Freddie Young, BSC can be seen directly behind Edwards. (RIGHT) The car takes off for a spin in the Place de la Concorde in Paris, with Edwards still clinging to the hood. This was the only way he could think of to check the action of the scene instantly, without having to wait for dailies.





Focus measurement is taped in preparation for filming of a scene with Omar Sharif. The "set" is the sitting room of an actual home in London's Eaton Place which was then being rented by American writer-director George Axelrod. He and his wife obligingly moved out for a week, turning the whole place over to the film crew. "THE TAMARIND SEED" is an all-location film, with no shooting in the studio.

a very, very good experience. He's the kind of person who will help you gain experience and then give you the opportunity to put that experience to use. I feel that it's my responsibility to provide the facility and establish the *milieu* in which he will be free to create. If he has to worry about production problems or public relations, it's going to get in the way of what he's doing directorially and his work with the actors. So I try to see that all of those things are taken care of. We've worked together so long that we have a fine rapport. On many productions the Producer is in conflict with the Director and a battle develops between them, with all of the attendant intrigues. We don't have any of that, thanks to the close communication that exists between us."

I know that Ken is an old hand at working abroad, having participated in several of Blake's pictures that were shot in foreign countries, but I ask him about the particular adjustments that must be made in such cases.

"It's always a new experience, coming from America to work in another country, because there are certain things that are inevitably different," he tells me. "Frames of reference are different. Working methods and life-styles are different—so certain adjustments must be made by all parties. The first thing you try to do is to find one or more key technicians whose opinions you respect and can use as guidelines. On this

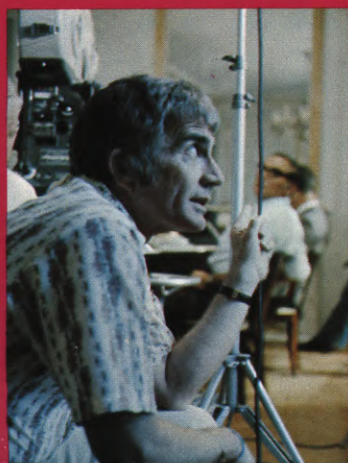
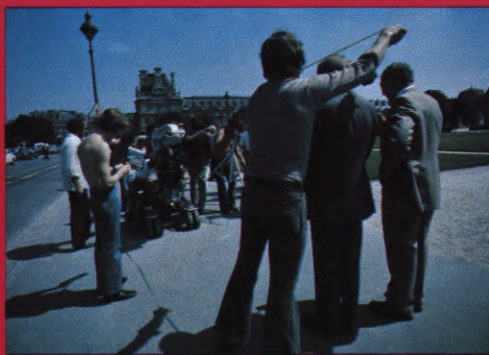
at the last moment. For example, you're all set to shoot in a place and then the gentleman's wife comes home and decides that she doesn't want any movie company in her house. Your shooting plans for the whole day go down the drain."

Ken has been associated with Blake Edwards in various capacities for many years and on several pictures. I remark that I've watched him progress from

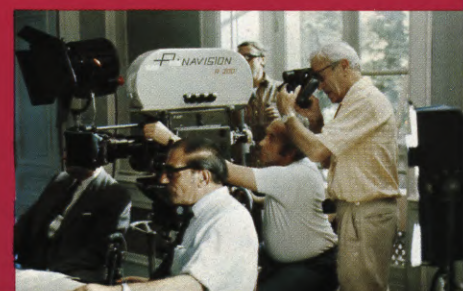
Associate Producer ("GUNN", "THE PARTY", "DARLING LILI") to Co-producer ("WILD ROVERS") to full Producer on the current project.

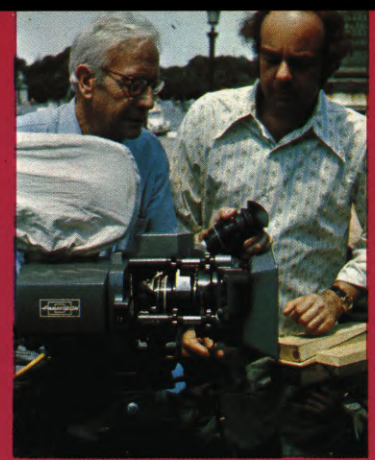
He laughs. "I remember telling you that an Associate Producer, by definition, is the only one who will associate with the Producer. Now that I'm a Producer, it's on someone else's shoulders to associate. In terms of co-producing, working with Blake has always been

(LEFT) In the Place de la Concorde, Director of Photography Freddie Young, BSC checks out a quartz light unit mounted on the hood of a car to provide fill light during a running shot. (CENTER) Focus is taped for tracking shot of actors strolling in the Tuileries Gardens outside the Louvre in Paris. (RIGHT) The Panavision R-200 camera and its new little brother, the amazing Panaflex, are set up side-by-side during filming in Barbados.



(LEFT) Director Edwards retires to the sidelines while crew achieves the set-up he has asked for. Like most experienced directors, when Edwards asks for a complicated set-up, he gets out of the crew's way and lets them get on with it. (CENTER) Shooting with the Panaflex on the beach at Barbados. Only a Brute arc was strong enough to provide fill light for the intense sunlight. (RIGHT) Freddie Young makes a last minute check of lighting with his spot meter.

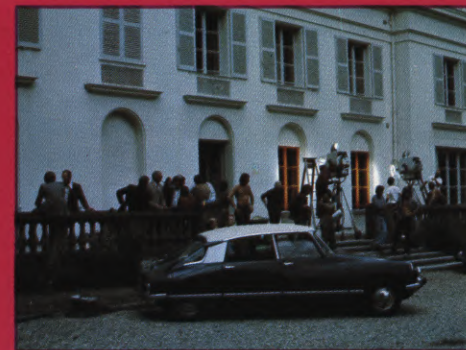




(LEFT) Almost a full city block had to be subtly lighted to shoot this scene in the streets of London's Eaton Place. Since this is a rather exclusive area, it was feared residents would resent the filming. Instead, they crowded doorways and windows to watch. (CENTER) Omar Sharif and Julie Andrews share an intimate moment outside her digs in Eaton Place. (RIGHT) Freddie Young and Producer Ken Wales check out the fine points of the Panaflex camera.



(LEFT) One of the stately conference rooms in the building at 47 Parliament Street in London is dressed to represent a posh office in Paris. During the shooting, however, the distinctive chimes of nearby Big Ben boomed out, ruining the illusion of a Paris locale. (CENTER) A "reverse angle" on the same set. It was a continuing challenge to light such rooms. Picture rails, when available, helped, but great care had to be taken not to damage walls or trimmings. (RIGHT) A limousine pulls up for a State party at the British embassy in Paris.



(LEFT) In "THE TAMARIND SEED", Julie Andrews plays a British Home Office secretary with access to classified materials, while Omar Sharif is the Number Two man in the Russian secret police. Inevitably, they fall in love and then the complications begin. (CENTER) Camera crew sets up on the lush grounds of the Institute National D'Education Populaire, a former private country estate outside of Paris. (RIGHT) With shooting going on inside the Institute, booster lights are beamed through the windows from the outside.

picture, Freddie Young is that person. He is able to call upon his vast fund of knowledge and experience in situations that challenge him and spark his ingenuity. Nothing throws him. No matter how difficult a location situation may be, he solves the problems and maintains excellent quality. I'm very pleased that the photography in this film is of such extremely high calibre.

"Over and above that, Freddie has so much energy that he's a step-and-a-half ahead of us all in getting set-ups and keeping things going. He moves things around, adjusts the lights himself, and
Continued on Page 828



FREDDIE YOUNG, BSC TALKS ABOUT PHOTOGRAPHING The Tamarind Seed

After all those years behind the camera, there's no problem that can't be solved, so he takes them in stride and sets the pace for the crew

After a half-century in the motion picture industry, there is scarcely a photographic problem which famed British cinematographer Freddie Young, BSC has not encountered—and solved. Winner of three Academy "Oscars" for "Best Achievement in Cinematography" ("LAWRENCE OF ARABIA", "DOCTOR ZHIVAGO", "RYAN'S DAUGHTER"), the indefatigable Mr. Young still sets a brisk pace for every crew that he works with.

In the following interview with *American Cinematographer* Editor Herb Lightman, he discusses his work as Director of Photography on Blake Edwards' spy-thriller "THE TAMARIND SEED". The interview took place in Paris after the company had completed location stunts in Barbados and London and was launching into the final phase of location shooting in the French capital:

YOUNG: *It's a pity you weren't out in Barbados with us.*

QUESTION: Yes it is. I was invited and I certainly wanted to be there, but I had to be on the other side of the world at the time. How did the shooting go out there?

YOUNG: *It went fine. I'd gone out on a recon with Blake Edwards and Ken Wales to choose locations several weeks*

before and, fortunately, when we went back there to shoot it wasn't the height of the season, so they were able to accommodate us. We took about 65 members of the crew along and that's an awful lot of people to house. I had been there 16 years ago while shooting "ISLAND IN THE SUN", with Harry Belafonte, and we stayed at the same hotel this time. The same people were there and they remembered "ISLAND IN THE SUN" and they remembered me—so it was a rather nice reunion. It's a lovely place, but quite humid.

QUESTION: Did you have any weather problems while shooting there?

YOUNG: *Actually, we were very lucky with the weather and we got through in our scheduled time, which was three weeks and two days. There were a few dullish days and an occasional shower, which didn't really hold us up at all, but on the day after we finished—the packing-up day—it just poured torrents the whole day, so we were very lucky.*

QUESTION: Can you tell me about some of the sequences shot in Barbados and whether these presented any special problems to you?

YOUNG: *Well, we had a great variety of things to shoot there. The holiday hotels in Barbados are not of the conven-*

tional type. They're made up of little bungalows on the beach and we had to shoot inside those bungalows. We had to build one that was similar to the others so that we could blow it up. In the story, the Russian agents arrive in a boat. They come along the beach and then throw a bomb through the open window of this bungalow and blow it up. That was a bit tricky, because we didn't want the overhanging trees to catch on fire. It all had to be sort of contained. Then we had scenes of Julie Andrews and Omar Sharif swimming, walking along the sand and driving through Barbados. They visit the museum and see this legendary tamarind seed in its glass case. There are some night sequences where they are dancing and walking in the moonlight, and there was the sequence where we blew up the boat. It seems we achieved an awful lot of shooting in three weeks. It's been a very happy picture—sort of a fun picture to work on, really.

QUESTION: What cameras have you been using?

YOUNG: *We've had the Panavision R200, the Panaflex and some Arriflexes. When you're shooting explosions, it's a good idea to cover them with several cameras. We tried for six or seven nights to shoot a sunset, but each night the sun sort of disappeared into the clouds*

(LEFT) Camera tracks backward with Anthony Quayle and Dan O'Herlihy, as they walk through the Tuileries Gardens in Paris. A quartz lamp mounted on the dolly provided the slight fill that was needed. (RIGHT) Freddie gives last minute adjustment to a lamp prior to filming a scene inside the Institute of Popular Education outside Paris. Young is a "Lighting Cameraman" in the most literal sense of the term, paying close personal attention to the fine-tuning of the lights.





(LEFT) Freddie Young rides the outrigger mount on car in rear to operate the camera himself in this running shot with the camera car towing the automobile in which the actors are riding. (RIGHT) The Panaflex camera, set at a low angle, is backed up against the wall to get the longest possible shot in this crowded room. The camera's small size and compact configuration make possible its use in tight spots where larger cameras could not be accommodated.

before it set. Very disappointing. You hope for some really glorious sunsets out in the Caribbean. We did film a couple of sunsets, but they're not as nice as we hoped they would be.

QUESTION: Was there any interference from tourists on the island?

YOUNG: There were crowds of American and Canadian tourists watching us all the time, and they had to be kept back with ropes, but they just loved watching us filming.

QUESTION: So far you've shot everything on location. Are any studio shots planned?

YOUNG: No, not at all. If we are not able to do our night interior car scenes here in Paris, we may have to do a bit of process when we get back to London, but we hope not to have to do that. If we can shoot it for real, it will be better.

QUESTION: I noticed in London that some of those real interiors were quite small. What about the problems of lighting them?

YOUNG: It's been terribly hot. We've

had to keep the windows closed because of the traffic noise in London. By the time you filter the windows and get the actors and crew and lights into some of those small rooms, it becomes quite stifling. A considerable amount of light is needed at times, but there's no air and it gets like a greenhouse. Everybody is sweating and it's difficult for the actors to keep cool. The makeup chaps have to keep putting blocks of ice on their faces. You get a certain amount of realism out of shooting in actual places. If it is daytime, you can see the houses and sky and traffic outside and you get away from the sort of painted backgrounds that you have in the studio, but sometimes you sort of long for the facilities of the studio when you have an especially tricky shot to do.

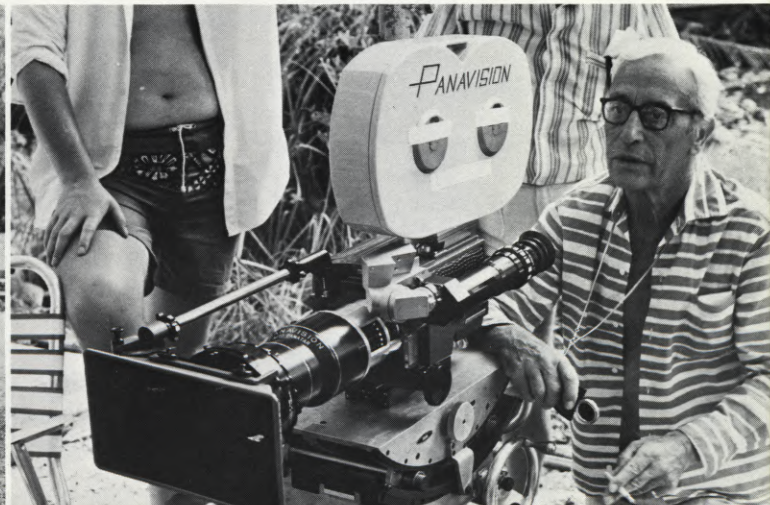
QUESTION: How have you had to alter your lighting, in terms of both hardware and technique, in order to shoot in these actual interiors?

YOUNG: Obviously, when you get into some places that have rather nice decoration, you can't screw lamps onto the walls. Sometimes you can't even use Polecats because the space is too wide—so you have to improvise. We've got

these little quartz lamps, which are very light in weight, and they can be hooked up to an odd picture rail—but it's quite a chore doing this sort of thing. You naturally have to cut down the amount of daylight that you're competing with in order to use a minimum amount of light inside. Of course, I did quite a bit of this on "LAWRENCE OF ARABIA", which was an all-location picture. We shot a lot of interiors in Spain, but they were in big places. The same was true of "DOCTOR ZHIVAGO". We shot in a lot of real interiors where there were valuable silk hangings and pictures and things and we had to be careful not to damage any of the decorations. On this picture, however, the rooms have been relatively quite small and there's not been a lot of extra space. We've used acrylic filters to cut down the daylight, because gelatines wave about in the breeze. You have to use 85ND3, 85ND6 and sometimes 85ND9 filters to control the outside light. But practically every cameraman working today is having the same sort of experience. There's nothing unique about it.

QUESTION: What about your ability to place the lights where you want them in
Continued on Page 820

(LEFT) Shooting a close shot of Julie Andrews during her convalescence after the fire at Barbados. Although the weather there was hot and humid, it presented no shooting problems, until the "packing-up" day, when the rain came down in torrents. (RIGHT) Freddie behind the Panaflex. He calls it "a great camera". Though best known and honored for his David Lean epics (with their endless production schedules), Freddie also makes features on very short schedules, as required.

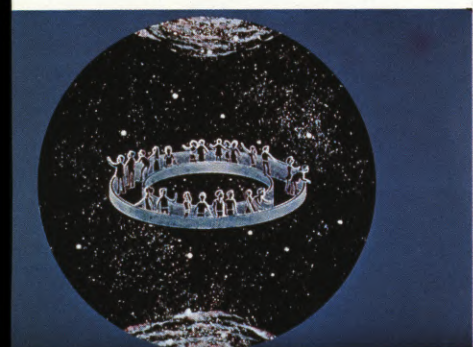




(LEFT) A one-fifth scale model of Ecosphere was built at Walter Landor Associates, so that all types of motion could be projected and tested. (CENTER) Chuck Maisel, writer and director of the Ecosphere film, touches his reflection in the mirror of the finished scale model. (RIGHT) Every storyboard used for the film took into account the replication of images on the mylar Ecosphere screen.



The storyboards were tested by using mirrors set at various angles for a simulation of the effect to be produced in the Ecosphere theatre. The unique structure and its highly specialized projection system was designed to operate at Portland's General Electric Visitor Information Center of the Trojan nuclear power plant. The film shown represents the world's first full-sphere production.



(LEFT) Artist's rendition to simulate the audience's feeling of being suspended in space inside the Ecosphere theatre. (CENTER) Whistling swans, an almost extinct species, are seen through the triangular aperture which provided the shape of the final image for Ecosphere. The aperture was also used as a viewfinder when the film was being shot. (RIGHT) Partial view inside the Ecosphere, while film is being projected.

ECOSPHERE: THE THEATRE THAT PERFORMS

By STEVE CARROLL

When Donovan Worland, the exhibit design director for Walter Landor Associates of San Francisco, asked me if I'd like to be in the middle of a movie, I thought he'd misdialed Central Casting. Not so. Donovan explained that his dream theater was finally finished and in operation at Portland General Elec-

tric's Visitor Information Center of the Trojan nuclear power plant. He asked if I would fly to Portland for a look at the world's first *full-sphere* production. Of course! I like Donovan, new ideas, and Portland.

Although I had heard a great deal about Ecosphere®, and Donovan gave

A unique projection system gives the viewer the sensation of being inside a sphere, totally surrounded by spectacular cinematic images

me further details as we drove the 40 miles from Portland to the site on the Columbia River, I wasn't really ready for what I experienced. George Carter, manager of the Center, ushered us into the semi-dark Ecosphere theater. As the theater went black, a moog synthesizer and chorus, starting on a low but

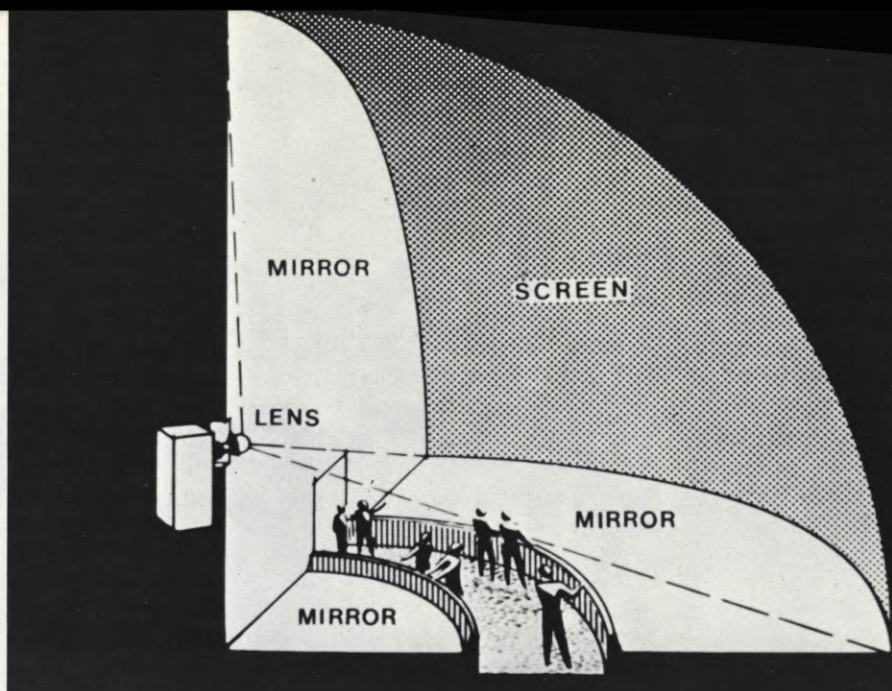
growing chord, enveloped us in quadra-
phonic sound. Simultaneously the entire
room became a screen—360 degrees of
movie in every direction! As a reflex to
orient myself physically, I looked down
at the floor—but it, like the rest of the
room, had dissolved into the infinite
universe that was being projected every-
where. I clung to the handrail and spun
off into sound and space—surrounded,
captured, and mesmerized by Eco-
sphere.

The theater is actually a quarter of a
hemisphere. The projector, located at the
juncture of the flat walls, projects
on the huge, curved, triangular screen.
The projection on the screen is reflected
in mylar mirrors that fully cover the flat
walls and the floor—thus, a complete
sphere of motion picture.

By the time my return flight reached
San Francisco, I was bursting to know
all about how the movie was filmed, the
special techniques and equipment invol-
ved—as the realization of Ecosphere
must have created some extraordinary
problems. But they had been solved—
how? I immediately set up an interview
with Don Short, the executive producer
for Walter Landor Associates, Chuck
Maisel, the film's writer and director,
and Bob Graham, who had created the
animation. We met aboard Landor's
unique headquarters, the Klamath, a
converted ferryboat moored in San
Francisco Bay. Their answers to my
questions tell the story of Ecosphere—a
concept untried until finished and a
movie made on faith as sweeping as the
theater itself.

QUESTION: What persuaded you to try
Ecosphere?

SHORT: Donovan Worland had done
his homework well. He convinced us
that even though a lot of adaptation
would be required to build a theater
where the whole room "performs",
where everything except the audience



Artist's diagram of the interior of the Ecosphere theatre, showing relative positions of the projection lens, screen and mirrors. (BELOW RIGHT) Chuck Maisel (left) writer and director, and Jay Conner, cameraman, shown on location in Oregon for nature shooting.

would have to be hidden behind the
screen, the technology to do it was
available. We thought the idea was
terrific.

MAISEL: We were fortunate in that we
had a client who trusted us enough to
put up the money for something they
couldn't see until it was finished. They
saw and approved the script and story-
board with virtually no changes. Then
they waited until the answer print in the
Ecosphere itself to see what they'd
bought—no dailies, no interlock. They
went on nothing but trust.

QUESTION: How did you test the idea
before shooting?

MAISEL: We built a 1/5-scale model of
Ecosphere to study all kinds of motion.
For example: we filmed a ball on a
string going back and forth, up and
Continued on Page 845



(LEFT) Key technicians at a work session. (Left to right) Robert Graham, animation designer; Donovan Worland, creator of the theatre concept; Chuck Maisel, writer and director; and Don Short, executive producer, review progress and discuss changes and alternate directions.



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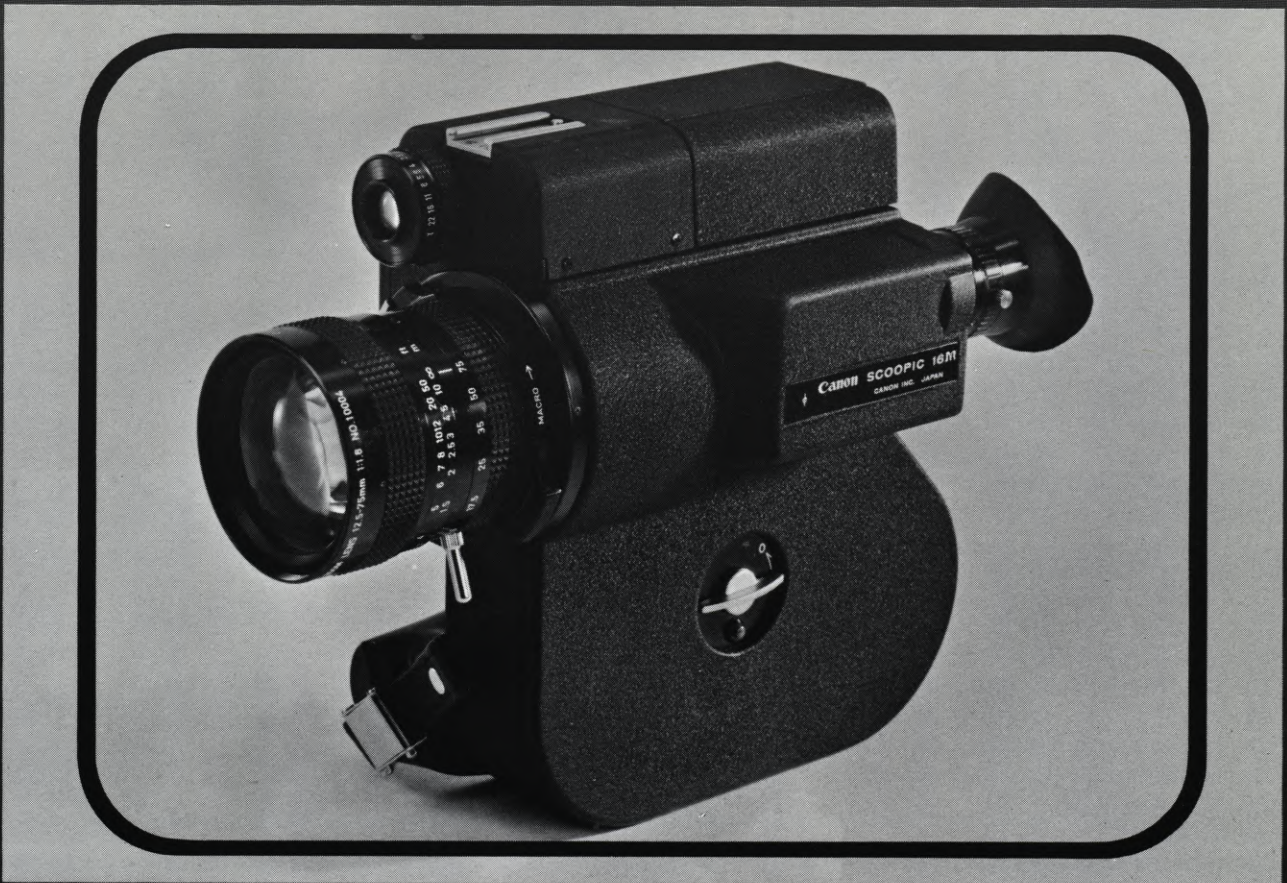
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THE STORY BEHIND THE FILMING OF "YOUNG FRANKENSTEIN"

Far-out special effects and glorious black-and-white photography help revive a famous monster for Mel Brooks' latest zany satire

By GERALD HIRSCHFELD, ASC

"YOUNG FRANKENSTEIN" incorporated more photographic and special effects than any other film I've ever worked on. The range was tremendous, from trick candle effects to half-a-million-volt electrical discharges, from low-hanging fog to torrential rain. Chases, explosions and fire of past films seemed like child's play by comparison.

One of the most difficult times of a new production, for me, is that time prior to the first set-up. It's during this time that I must make commitments to the Art Director regarding my requirements in getting the kind of look that I feel the film should have. Also, during this same period, meetings with special effects, scenic artists, wardrobe and, in this film, make-up are of great importance; they all require a commitment. Of special consideration in approaching this film was the film laboratory, which had not processed a black and white film in over six years! But, beyond all the above, and of greatest importance, was my prime consideration: what was I going to do to make this film have a "special" look and also be one that would be right for the story? Looking back, now that it's all finished, this is my story of the creation of the film, "YOUNG FRANKENSTEIN".

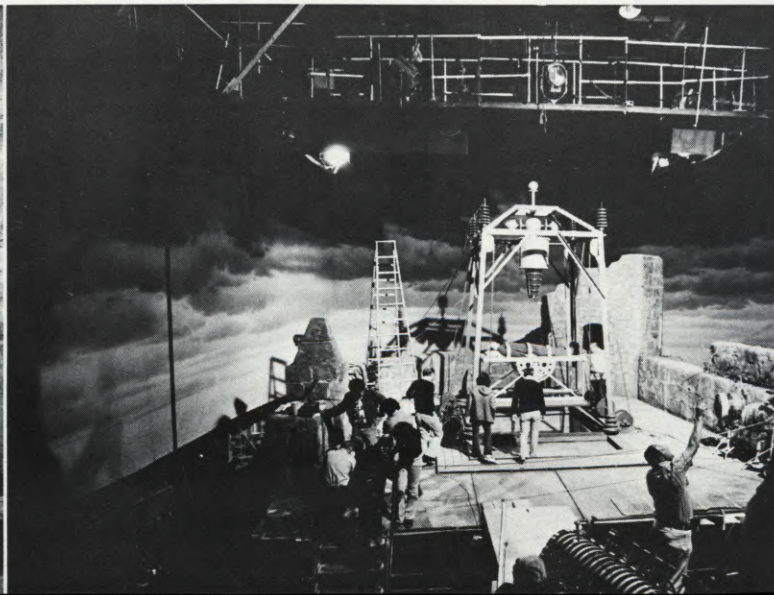
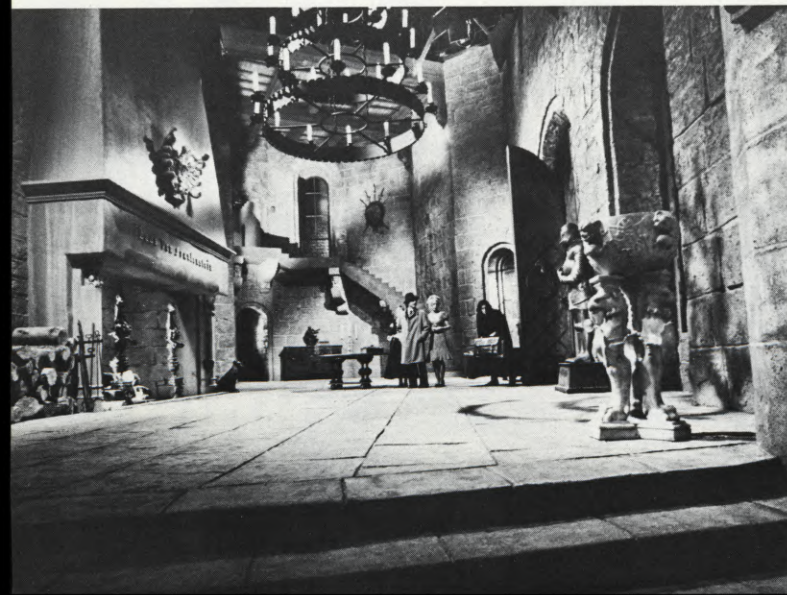
A very dear friend of mine often quotes: "Things happen for a reason; don't be upset about what has just occurred." How very true, I had just

turned down a film about which I had bad vibrations, and there was no other job to turn to. I learned "the reason" the next day when I was called to have an interview with Mel Brooks, the director of "YOUNG FRANKENSTEIN". How does a director interview a camera-

man? Does he ask, "What stop do you usually shoot at?" Mr. Brooks knew of my screen credits, but he didn't know if we'd get along as people. The relationship between a director and his cameraman is a very close one, and we had to be sure that we'd get along. At the time



(ABOVE RIGHT) The mood of the story is set by large doses of fog in an early Transylvanian scene from "YOUNG FRANKENSTEIN" (not to be confused with "ANDY WARHOL'S FRANKENSTEIN", in current release). (BELOW LEFT) Huge elaborate reception hall conceived by Production Designer Dale Hennesy. The players were dwarfed by the 35-foot-high walls, 15-foot doors and the 6 by 10-foot fireplace. (RIGHT) The castle rooftop set, with operating platform that rises from pit below to the giant electrode. Note large dimmer bank in the foreground, a device not often seen in these days of color filming.





(LEFT) Another special effect created on stage. The kites, used to harness lightning for the experiment, were blown by huge fans and guided to the studio grids by invisible piano wire. In the foreground is Igor (Marty Feldman), the good doctor's assistant. (RIGHT) One of the many highlights of the film story, as Dr. Frankenstein causes lightning to channel down the huge electrical terminal into the body of his creation. Here the electrical discharge is real; it's 500,000 volts jump to the nearest object, the dummy, and not to Gene Wilder, who plays Dr. Frankenstein.

that a director interviews a cameraman, the cameraman, if he cares, interviews the director—hopefully unbeknownst to him. Mel Brooks began kidding me about some of my past films and so-called "errors" he felt I'd made. He asked me if I didn't think that, in "DIARY OF A MAD HOUSEWIFE" the white tub in the bathroom was too bright, and didn't the gels on the bedroom windows shimmer a bit in a breeze? At first, I took him seriously and was more than a little upset, until I realized he was doing his "thing" and pulling-my-leg, because there was no tub and the bedroom was an interior set that didn't require window gels. So, I pulled his leg and said, "One more derogatory remark about my work and I'll leave." We understood each other and laughed; it was the beginning of what turned out to be a great work experience.

At first, I balked at the decision to

do the film in black and white; suggesting that perhaps we start in black and white, as the film opens in old-time Transylvania, and then segue into color as we go to modern-day Baltimore to meet young Dr. Frankenstein. But the director was firm and I soon realized, as I progressed more into the feeling of the film, that he was 100% correct.

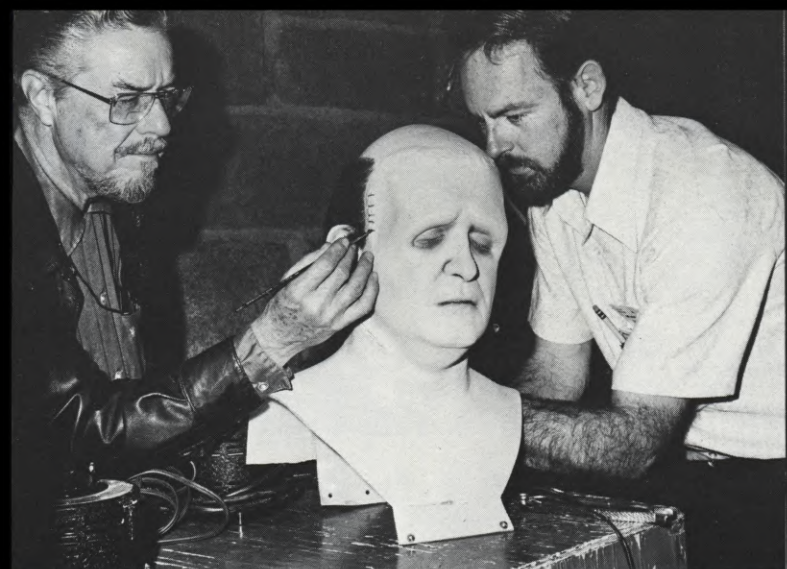
I started my career making black and white films, and moved right along with the industry as color became the new medium. I'm sure you recall that television started in black and white and progressed technologically to color. Now, we are, in a sense, all victims of advertising and, at present, reject the use of black and white films as archaic. But where in the "book of rules" does it say, "Make all motion pictures in color"? If it was correct, as it was many years ago, to use a "soft focus" lens for a close-up, we don't arbitrarily throw that out in favor of one so critically

sharp, as the new lenses are, that the skin pores will show; we add diffusion to once again soften the lens. Similarly, if it's right for a story to be photographed in black and white we shouldn't arbitrarily shoot it in color. I found, after viewing a few days of dailies, that the black and white not only seemed right, but it actually enhanced the feeling and mood of "YOUNG FRANKENSTEIN".

The premise of the film was one of satire, and all components complemented that aim. The entire cast was caught up with the spirit of satirical humor and added their thing to an original and extremely humorous script by Gene Wilder (Dr. Frankenstein) and Mel Brooks. I viewed dusted-off prints of the original "FRANKENSTEIN" and "THE BRIDE OF FRANKENSTEIN", not to copy, but to satirize. I thought of the assortment of filters I hadn't used in about eight years since my last black

(LEFT) In the early morning hours Makeup Creator William Tuttle begins his "monster" makeup on Peter Boyle. Here he starts applying the latex forehead piece that will create the enlarged frontal lobes common to all good monsters. It took two hours, originally, to attach all the necessary makeup and appliances with sufficient care to prevent it from showing on film. (RIGHT) Tuttle carefully applies a zipper appliance to Peter Boyle, as The Monster; so that he can be inspected internally without making a new wound. The frontal forehead has not yet been fully blended to Mr. Boyle's skin and eyes.





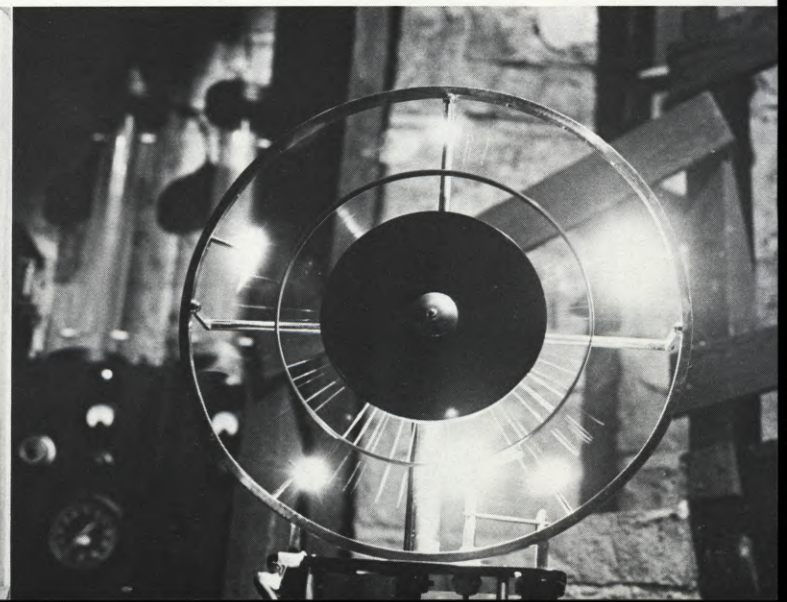
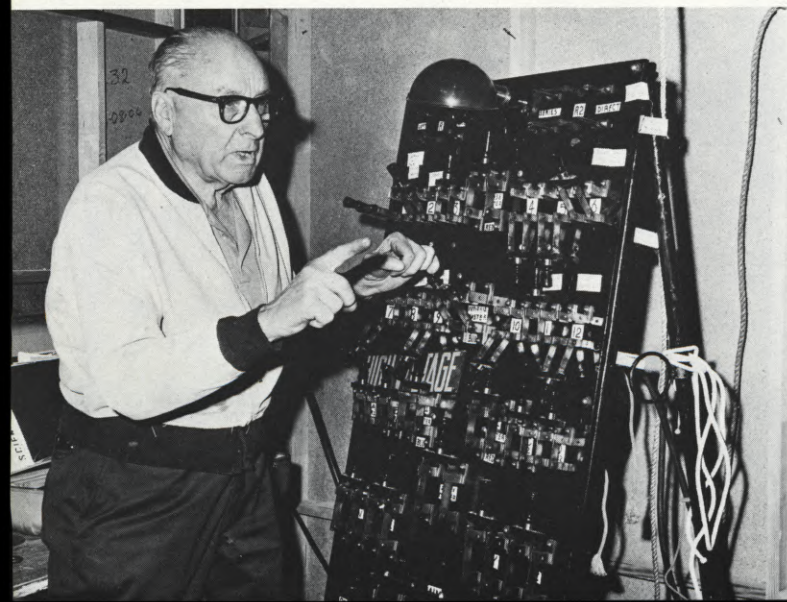
(LEFT) Make-up creator William Tuttle, and special effects head Henry Millar, Jr. prepare the lifelike fibre-glass replica of the Monster, played by Peter Boyle. This head was attached to a dummy figure and used under the half-million-volt electrical discharge used "to create life". One man is working on the external look, while the other is adjusting the inner workings. (RIGHT) This is the fibre-glass head created by Tuttle, to help the effect of "the creation of life". Under the giant electrode, the head starts to glow and pulsate with light from within, which shows his skull bones, teeth and brain tissue.

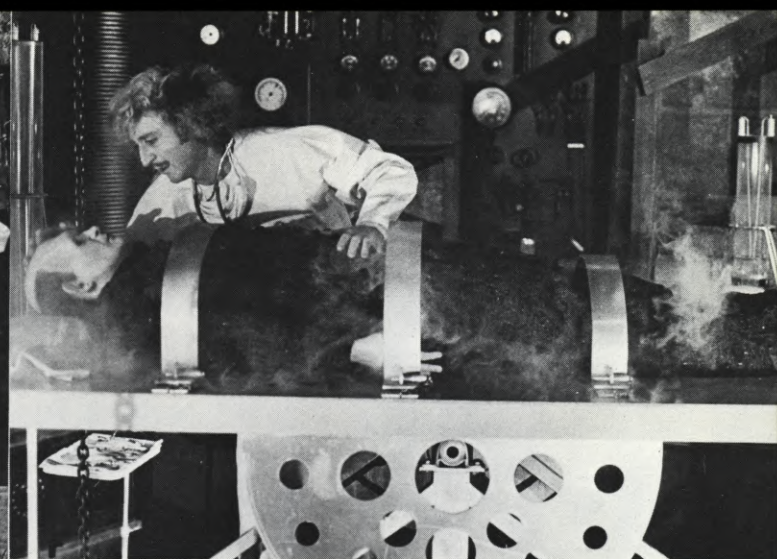
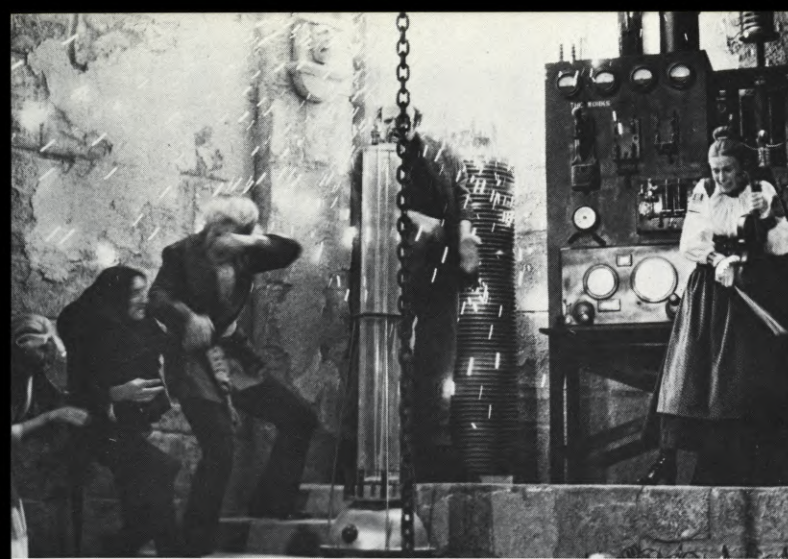


and white film, only to learn that we had no day exterior shots which would require filters. I was about to learn a new type of photography which had nothing to do with mood, or with composition, or with lighting, or sets; it had to do with photographing a "joke". The "joke" was the whole purpose of setting up a scene, and if that didn't come across there was no pay-off, but more about that a bit later.

The first thing I felt obliged to settle was the manner in which the black and white negative would be processed. In creating a style for "YOUNG FRANKENSTEIN", I decided that my satire on the 1931 look would be based on over-emphasizing the back-lights that were the style in those days, and to really do a black and white film—that is, keep the middle tones to a minimum; in other words, high contrast. I was able to draw upon past experience from the last black and white film that I photographed, "THE INCIDENT". I request-

(ABOVE LEFT) The special effect "dart gun" which can score a bulls eye on each and every shot. Compressed air hurls the darts to any pre-determined spot. (BELOW LEFT) Electrical wizard, Ken Strickfaden cautions the crew to stand clear before he starts sending hundred of thousands of volts flying through the studio. Mr. Strickfaden worked on the original "FRANKENSTEIN" in 1931; he brought, from storage, some of his old equipment and designed new extravaganzas for this film. (RIGHT) One of the newer electrical devices by Ken Strickfaden. The radial lines are not spokes of a wheel, but electrical discharges being flung out by the rotating glass and copper disc.





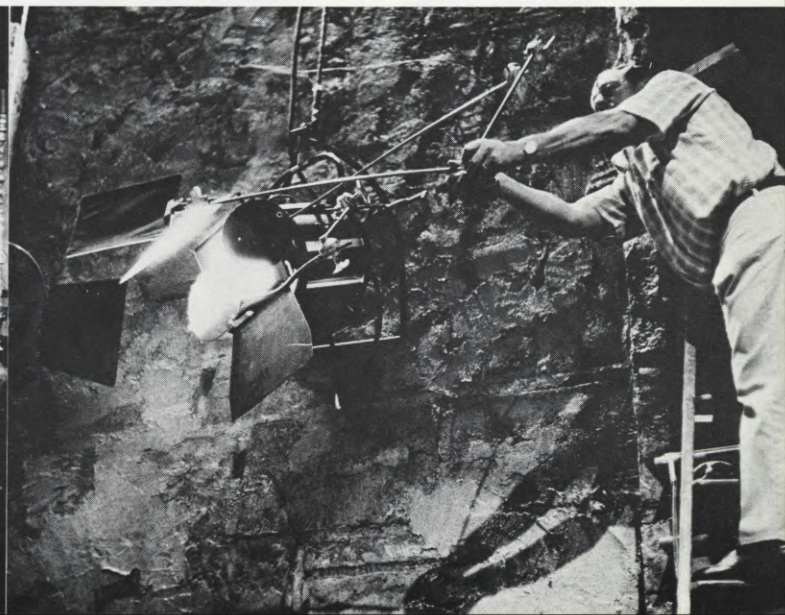
(LEFT) Half hidden by the shower of flame and sparks, the Monster, center, climaxes an emotional moment of the story by inadvertently hitting a switch with his flailing arms, almost destroying the old laboratory. (RIGHT) Having just channeled a half-million volts into the body of the Monster, Dr. Frankenstein closely examines him for signs of life. The body is still smoldering from the exposure to all that electrical current.

ed that the exposure test be processed at varying gammas from .65 to .85. The effect of forced development of Double-X Negative #5222 gives an effective film speed increase of from one to two stops and also greatly increases the visual contrast; conversely, forced processing of Color Negative #5254 reduces the color saturation, or contrast, in direct proportion to the increase in film speed. I settled on a gamma of .80, which more than doubled the film speed to approximately ASA 500. This extra film sensitivity was put to good use in filming the dark gray, thirty-five-foot-high walls of the castle sets. At an average stop of T/4, I required a minimum of lighting equipment; to be exact, 40 foot-candles more than sufficed. About a week after we began filming, the lab and I settled on a printer light of 21, almost the mid-point on a range of 50 printer lights; we stuck to it throughout the production. The director

Continued on Page 840



(ABOVE RIGHT) Director of Photography Gerald Hirschfeld, ASC confers with Makeup Creator Tuttle regarding the color and texture of skin for the Monster. (BELOW LEFT) Little Heidi goes sailing through the air into her second-story bedroom window. She was "flown" by wires which had to be concealed by means of careful lighting. (RIGHT) An example of the extremes to which the cinematographer had to go in order to properly light the Monster, without having the special lighting spill over onto the other actors. Here the key grip ties a small gobo to the already cluttered lamp.



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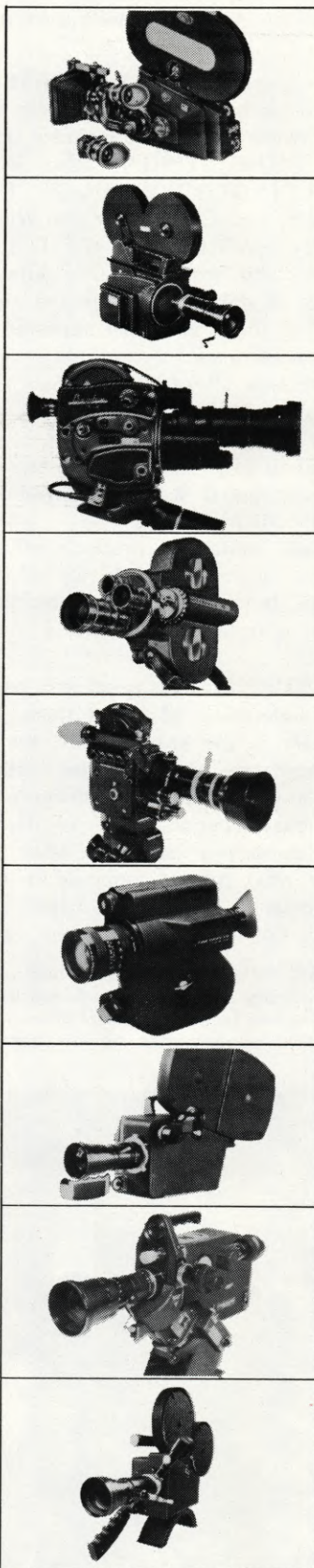
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THE 5th ANNUAL U.S.C. FILM CONFERENCE

Top professionals from every key discipline of film production meet with cinema students to tell it like it is in the for-real world of movie-making

The 5th Annual U.S.C. Film Conference, held recently in Hoffman Hall on the campus of the University of Southern California, provided a forum within which top professionals of the Hollywood motion picture industry, in a series of five seminars, exchanged ideas with, and answered questions for, gatherings of cinema students and film buffs.

Though not quite as well attended as in previous years, the Conference did give those attending an overview of the professional film-making scene—including the seldom-discussed blood, sweat and tears aspects of it.

The first seminar, **THE PRODUCERS**, was hosted by Daily Variety film critic Art Murphy and included Bob Evans, Alex Jacobs, Ross Hunter and Robert Radnitz.

The second seminar, **THE DIRECTORS**, was hosted by Los Angeles Times film critic Charles Champlin and included Ralph Bakshi, Martin Ritt and Alex Singer.

The third seminar, **THE PERFORMERS**, was hosted by film critic-historian-cinema professor Arthur Knight and included Jack Lemmon, Jack Nicholson, Ellen Burstyn, Maximilian Schell and Maria Schell.

Morning and afternoon sessions of the 5th Annual U.S.C. Film Conference were held in the auditorium of Hoffman Hall on the campus of the University of Southern California in Los Angeles. In the evenings, premiere screenings of outstanding new feature films were shown in the University's Bovard Auditorium. The Conference enjoyed whole-hearted support from the Hollywood film industry.

The fourth seminar, **THE WRITERS**, was hosted by screenwriter-college professor William Froug and included David Ward ("THE STING"), John Milius ("DILLINGER", "JUDGE ROY BEAN"), and Gloria Katz and Willard Huyck ("AMERICAN GRAFFITI").

The fifth seminar was a kind of free-for-all and included a mixed bag of some of those who had appeared on previous seminars.

Although all of the seminars were interesting—even entertaining—the one which really got down to cases and seemed to offer the most substance to those attending was that devoted to **THE PRODUCERS**.

Space limitations preclude publication of an entire transcript of that seminar, but what follows are highlights excerpted from the program:

ART MURPHY: This panel may be the least understood of all of them. The Producer is the entrepreneur, the coordinator, the promoter, the hustler—call him what you may. Producers come in various shapes and sizes and, after 50 years, nobody is really sure what they do—or what they're supposed to do—but some of them do it better than others. Some of them succeed better

than others, and not necessarily for the right reasons. We have with us on our panel today a man who supervises 35 to 40 million dollars worth of production every year, the Senior Executive Vice President in charge of all production for Paramount Pictures—Robert Evans. Next we have the producer of 46 pictures over the past twenty years, 43 of which have been financially successful. His credits cover the spectrum from low-budget escapism to high-budget escapism—Ross Hunter. Next we have a producer who comes the closest to what I call "Walt Disney-plus". He has a feel and the heart for what is called "the Family Film." He believes in all-age entertainment with a little bit of fiber, a little bit of social consciousness, pictures such as his production of "SOUNDER", one of the most successful films of its type ever made—Robert Radnitz. Finally, we have a writer-producer whose writing credits include "POINT BLANK" and "HELL IN THE PACIFIC". He has worked in European film-making and is currently producing for television—Alex Jacobs.

Since these gentlemen represent, more or less, a cross-section of producers with different financial budgets, different problems, different goals, I think I'll ask the first question of a person who is the least typical of today's independent producer. I'd like Bob Evans to try to explain to me and you—and maybe to himself—why, in 1974, anybody would like to be responsible for 30 or 40 million dollars worth of pictures each year, the success of which he will never get complete credit for, but the failures of which he will be permitted to take the blame for.

EVANS: Thanks for the easy question. I've done this job for eight years now, as you know. It is a thankless job, but a very exciting one. I feel that part of my insides goes into every picture that comes out of Paramount. The batting average in any studio is the same as it is in baseball. If you bat 300, you're a star. I think that if we hit with one out of every three pictures, we're doing well. Some years we hit better than that and some years we hit less. You get keyed up in a job like mine. I'm keyed



up to the point where, if I were fired from my job or put out to pasture or let out to do one picture every two or three years, I don't know whether my metabolism could take it or not. You get used to being involved with lots of pictures, lots of responsibility, lots of yelling, mostly aggravation. It's screwed up my personal life. It has not given me the happiness I would like to have, but I'm used to it now and that's part of the action. I enjoy the action of being head of the studio at Paramount. Possibly that's egotistical. Maybe it implies a lack of character. I'm not happy about it, but I enjoy the action. Fortunately, under the new contract I have, I'll be allowed to make one picture a year under my own name, and how well that will work out I don't know. I don't mind the job I have. It kills all my personal life, but I wouldn't want to give it up.

MURPHY: Now, at the opposite extreme, Bob Radnitz will select a project and be prepared to devote two or three years of his life to that and nothing else. Bob, do you ever think that while you are immersed in a project, something equally interesting has come along and that you might have missed the boat? Is there any temptation to start revving up in volume?

RADNITZ: I'm revving a little bit. Things do come along that I would like to do and I sometimes miss them. I remember initially reading excerpts of "CONRACK" in *Life* magazine. I rushed to try to get it, but it had been bought already. I think this happens whether you're making one picture or 20, but the only way I can really work—and work the way I want to work—is to do one thing at a time. I don't know how to do it any other way.

MURPHY: Ross, you're also a one-picture-at-a-time person, but when you select that one film, do you have alternatives, or do you just plunge into whatever you think is a good idea and the hell with whatever else is around at the time?

HUNTER: Well, material is so hard to find today that when you find a piece of material that you feel really has a chance, you work very diligently on that particular project. When I was working on "AIRPORT" I was very excited about it, mainly because I felt it was time for audiences to see something other than the "EASY RIDER" type of movie. It was a great challenge because, from the technical standpoint, it was an almost impossible movie to make. Prior

to "AIRPORT", my theory was to be working on four or five projects. Then, when you've got a good script, and can cast them and the budget is right, put them into work. That is really the way I like to work. But I like home base—I like working out of a major studio, so that I can develop ideas and projects. I read a lot and hope that my next project will be the right one. You never know. What I try to do is the type of movie that nobody else is doing at that particular time.

MURPHY: Alex Jacobs is the type of working writer-producer that these other gentlemen, from time to time, might engage to work on a specific project. Based on your experience here and abroad, Alex, would you rather work for a major studio, an independent company, or just try to bootstrap one project after the other?

JACOBS: Well, I think it depends almost entirely on what the project is and why you want to make it. It might be argued that in the future more and more films will be made inside the studio because "naturalism," in the sense of social realism, might go, because television is doing more and more of it. I think that if any sort of film industry is going to survive, it has got to go more and more towards the imaginative, more and more away from so-called naturalism. But I think a lot depends on what sort of film you are after. If you are after a film of imagination, a science-fiction picture, a film of the macabre, an "EXORCIST," it does seem to me that you need the facilities of studios. Not really because of backgrounds, but because very often they contain craftsmen, particularly the Hollywood studios. One of the surprising things about coming here was to find so many people defensive about their own industry. It seems to me that it's an extraordinary, *avant garde* industry, in a certain sense. There isn't a single technical advancement that has been made in cinema throughout the world that didn't come from Hollywood. Not one, and if you think back, there isn't one innovation in filming method—fast film stocks, lenses, sound, cranes, rear-projection, one after another—that didn't come out of this country, this town. So, if you're making the kind of film that requires complex technical facilities, quite obviously a studio is needed. But if you're going to make a more personal film, it may very well be that working outside the studio is better—if only because the studio may not quite understand what you're doing. In the studios, we're working with industrialists these

days. One of the saddest things today is that there are simply less and less real producers. If you omit the packagers and the get-rich-quick boys, there are very few true producers—guys who can act as tough, sympathetic sounding boards for the others working on a picture. A producer can very well be the rock against which everyone can bang their heads, and there aren't that many of that sort of personality around. In our business there are more and more guys who actually know nothing about film.

EVANS: I'd like to comment on a remark that Alex made. He said that people in Hollywood are defensive about themselves—which is very true. A lot of my work involves traveling around the world. I have to go to Madrid, London, Rome, Paris, Mexico City—various places that are also sometimes considered to be film capitals of the world. And, without exception, there isn't an artist that I've met—a producer, director or writer—who wouldn't like to come to Hollywood to work. Hollywood really is the film capital of the world, and I think that it has become more and more the film capital of the world in recent years. When I first took my job I went to work in London as production head. The people who had just taken over our company thought that London was where the action was. Everything was going to come out of London. I always wanted to come back here, but our management felt that that's where the action would be, because nothing was happening in Hollywood at the time. Within two or three years that changed and, in the last five years, Hollywood has become more and more important and more attractive to creative talents in the motion picture industry around the world. It's exciting to know that Hollywood really is the capital of the world's film industry and there's no getting away from it. Even the attitudes of the people working in the Hollywood industry are different. If you work in New York on a film, your workers' attitudes there are down and they are looking at the clock for the 6 o'clock break. They're tough with their unions. The guys out here all love their work and they all feel part of the film community and I think that shows in the work that is done out here. In the days to come Hollywood is going to become more and more important as a film capital. And I think it is good for you people to know that, because you are living here and I think this is where the action is going to be.

Continued on Page 812

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U.S.C. CONFERENCE

Continued from Page 809

HUNTER: I'd also like to add a positive word for the potential professional filmmakers in our audience. You're not interested in the mistakes of the past or what we don't have. I think you're interested in what we do have, and we have a hell of a lot. Mainly, we have an audience—that we know. If we give them what they want, they're going to go out to see films like they've never gone out before. I don't know exactly what people mean when they speak of a "personal" film. All films are personal. There has to be a reason why you do a film—unless you're just a packager. That's seriously a danger to the film industry today, the cynical attitude of the packager. I called a producer of that type the other day to talk to him and I asked, "What are you doing in your office?" He said, "Well, my picture is on location." I said, "Your picture is on location and you're sitting in your office?" And he said, "Sure, I got my \$100,000—and that's it." All of you who want to be producers take note: I beg to disagree with those people who think that the producer is dying out. I think the producer is coming back stronger than ever before—and will have to, if this industry is to exist. Because costs are going so high, temperaments are flaring, people are in categories where they actually don't belong—and I think that the producer has to be there—not just as a buffer, but as the man who puts the strings on the tapestry and makes it all work. We're in a commercial business. We're in it to please that public which we hope will buy what we're giving them, and if we forget that and allow the packager to come in and take over, we're in trouble. For example, if my sister, who knows nothing about producing, found a story and got Steve McQueen to agree to do it, I daresay every movie studio would be interested, and my sister, all of a sudden, would be a producer. I think that the greatest excitement in producing comes from learning your craft right from the beginning, right from the bottom. Learn about it.

JACOBS: I think it's important to realize that the cinema, which was formerly a mass medium, is becoming less and less a mass medium. A mass medium is only popular when it mirrors what the audience wishes to see. A film that isn't popular draws only a small audience because, very often, it's either a private vision, or it doesn't reflect where an audience is at. Therefore, highly successful films have to be

studied—no matter whether you think they're crap, or bad art, or calculated entertainment. Put simply, if a film like "SOUND OF MUSIC" makes a huge amount of money, it's more than simply schmaltz; it's more than simply pap—because you can't make that sort of money simply by giving them pap. If you consider a film like "LOVE STORY", with due respect to Bob Evans, I would argue that one of the most interesting things about the film was its underlying Cinderella wish-fulfillment theme—and that's a very important element to remember when one is making a mass medium movie. The story line of "LOVE STORY" can be summed up by saying that it's about a lovely, beautiful, talented, poor, young girl who meets a rich, young schmuck, turns him into a rich, young mensch, and then dies—leaving the memory of her sacrifice in his heart for the rest of his days. A film with that kind of theme can have some sensual values of sentiment that strike a very deep chord in the audience. They are very important reminders of certain truths, and "LOVE STORY" touches very complex elements there.

RADNITZ: I'd like to say a word in relation to Bob Evans and "LOVE STORY". What Alex has been talking about is for me the proof that negates the whole argument that a good picture is not a personal vision. You know, somebody else could have read "LOVE STORY" and said, "It's a crock!" I don't know Bob Evans that well, but I'm sure he must have read that material and totally believed in it. He saw something exciting in it, and was his personal vision. Lots of other people could have read that same material and said, "Hell, I don't see anything in it." When I taught English, I used to give an example to my class, and I'd like to repeat it here. Let's say that you have a story line about a guy who has just come back from college. He comes home and finds out that his old man has been knocked off, possibly by his mother and the guy she's now living with. His girl friend has gone bananas and he doesn't know what the hell to do. Now, you could take that story line and write a piece of crap—or you could also write "Hamlet". What it comes down to is somebody's personal vision about a piece of material—and hewing to it, and saying, "I'm going to do that damned thing. I don't care what anybody else feels about it."

EVANS: I'd just like to answer Bob, if I may, for a moment. The story behind how "LOVE STORY" was made is

interesting and I think you'll enjoy it. When we first got the property, we offered it to John Voight, who said, "I wouldn't do this piece of crap for anything." Instead, he did a picture called "THE ALL-AMERICAN BOY", which never got distributed. The next person I offered the picture to was Beau Bridges, who read it and said, "This is trash. I won't have anything to do with it." Instead, he did a picture called "THE CHRISTIAN LICORCE STORE", which never got distributed. The next person I offered the picture to was Michael Sarrazin. He read it and wouldn't even return our phone calls. Instead, he did a picture called "THE SWEET RIDE", which wasn't released. Here are three actors who are fairly bright guys, and all of them looked at the picture as a piece of junk. Then we offered "LOVE STORY" to directors. The first director was Larry Peerce, who walked off the film and said, "I couldn't put my name on it." He made a picture called "THE HUNTING PARTY", which they've never released. The next director signed for it was Tony Harvey, but after a month of working on it, he said, "I'm disgusted with even touching this piece of dreck." He walked off and we never saw him again, but he made a picture afterwards which was never released.

MURPHY: The moral of this story is: don't screw around with Bob Evans.

EVANS: I finally signed Arthur Hiller—who was our seventh choice—to direct the film, but we still had no leading guy to play the part. We tested unknowns and the only unknown we didn't test was Ryan O'Neal. We finally made a test of him, however, and when Arthur saw it, he said, "I'm not going to make this picture with Ryan O'Neal. It would be 'Peyton Place Revisited.' I won't make the picture. I'll walk off." He walked off, but four days later came back under duress—which is something that happens when a producer steps in. The fact is that if we had used anybody else but Ryan O'Neal, the piece wouldn't have worked. Ryan, in that particular piece, had a very special quality, but the director used Ryan only under duress. All of this which I've just capsuled took place over just one film. But, as everyone on this panel can tell you, it takes place on every film we are involved with, and that's why this business is a very rough business.

MURPHY: Many of the people in this audience are cinema students and are interested in breaking into the film industry, but the union structure makes



(LEFT) THE DIRECTORS Seminar included Martin Ritt, Alex Segal, Los Angeles Times film critic Charles Champlin (host), special guest "Scatman" Cruthers and Ralph Bakshi. (RIGHT) THE WRITERS Seminar included Gloria Katz, Willard Huyck, screenwriter-professor William Froug (host), David Ward and John Milius. Panelists at this year's Conference were unusually frank, discussing conditions exactly as they pertain in the "jungle" of professional film production and wiping the stars out of the eyes of the dabblers in the crowd.

that difficult. However, the absence of heavily stratified union structures in the producers' ranks would seem to imply that anybody can become a producer—and lots of anybodies have. In a way, this is very good, because if somebody really has the motivation he will not find himself artificially inhibited, at least by union regulations. Bob, at Paramount, what kind of program is there—or could there be—to parallel the training programs sponsored by the Directors Guild and the other creative guilds? What about a management apprentice program for people who might turn out to be producers for you?

EVANS: There are restrictions even in that area. For example, before we hire anybody—and this has nothing to do with qualifications—the first person we have to hire is a woman, the second is a member of a minority group, etc. We are restricted as to the kind of people we can hire—all qualifications aside. We don't have a budget to just put people on overhead. However, on individual pictures, that could be worked out—and it is on many of our films. I would say that we have apprentices on at least half of our films. Unfortunately, the way apprentices get in is not through qualifications, but through the people they know. I have to be frank with you. That's the way it works out. There are no tests given, where the people who get the highest grades get the jobs. If a producer has a brother who has a son who wants to get into the motion picture business, he'll get the job—and it's not for me to stop it, because he may be qualified. You can't hold it against him, but he'll get the job because of whom he knows. There isn't any actual management course or program for building young manpower. That's a mistake and it's something that should be looked into.

RADNITZ: We can talk to you until

Hell freezes over about possible ways to break into the motion picture industry, but I must tell you that I don't think there are any pat answers. We can give all kinds of generalizations, but in the final analysis, I honestly believe that the only way you'll find your way into this industry is to discover it yourself. It's been suggested that a good entree is through the story department of one of the studios or agencies, but I don't really agree with that. I think what is far better is the actual writing of a script. I'm sure all my fellow panelists will agree that everyone is looking for a good script, a good property. I know that in my office if anyone comes in with a script or a book that he feels would be a good property, he gets a hearing and gets talked to.

(QUESTION FROM AUDIENCE:) I'd like to address this question to the panel in general. What is your attitude toward hiring a new director? In other words, if you were satisfied that someone really had talent, would you hire him to direct his first feature?

HUNTER: I hired Mike Nichols, and he had never directed a picture before. In fact, I brought him out here after I'd seen him do a show with Elaine May on Broadway and I put him under contract to my company. Unfortunately, I was stupid enough to loan him to Warner Bros. for "VIRGINIA WOOLF" and I never got him back. But I saw something in that little revue that convinced me that someday Mike Nichols would become an important director—and he has.

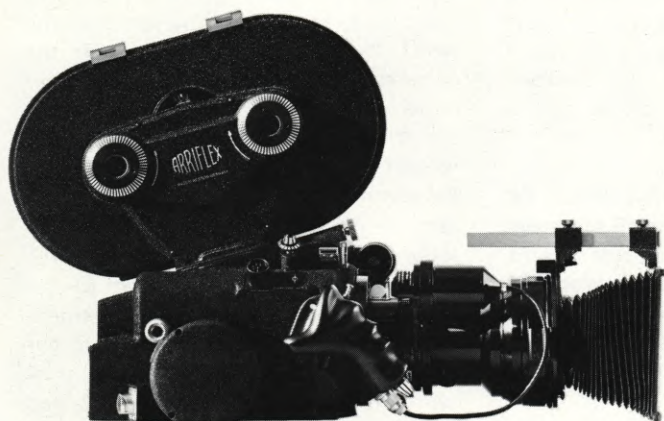
EVANS: I've had both good and bad experiences in hiring a director who has never directed a film before. Most of those experiences have been bad. Quite frankly, a director learns a lot on his first picture. I'd rather have him learn that on someone else's picture and do

his second one for me. I've gotten that much more conservative in my old age.

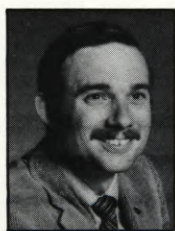
JACOBS: Part of the problem is simply the cushioning that, to some extent a film school gives one. Because you do have some knowledge, and I feel it's very important to understand that if you're going to join the business—not make a film in the hills once every ten years and remain an "artist"—if you're going to be some sort of professional craftsman, then you are going to straddle commerce and culture, whether you like it or not. You're not going to make Art, in the narrow sense of the word, but you may make it in the broadest sense. And what you should all remember is that you're going to straddle those two barrels as long as you remain in the business. So you've got to be damned determined about heading into it. Now, I think that if there are some handicaps—and there are some—it's very difficult to complain to the unions because they've had a tremendously long and arduous struggle to get their protections. There's a reason why contracts are 199 pages long, and not merely handshakes. The protections that have been built up, whether you're a craftsman or a businessperson, are built-in simply from being in an industry that is both artistic and atavistic. It seems to me that if you don't understand that—if you aren't given any training in how deals are made—if you don't get that information, you've got to, somehow, find it in that world outside, because you're going to be dealing with very complex sorts of people—whether they're film stars or producers or top-notch photographers. I've never met a producer who just wants to make a movie. I haven't met one yet—because there's so much sweat and toil involved in just getting the money to set one movie up, particularly these days, that he'd have to be some sort of masochist just to do it. ■

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Jim Legg

That's cameraman Jim Legg speaking. He works for the Foreign Mission Board of the Southern Baptist Convention. They bought an Arriflex 16BL in December 1965 — and Jim Legg has been using it ever since.

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"Once we sent it in for routine servicing. And at one point I fitted a brighter groundglass. That's all. In fact, our experience with it has been so good, we've bought ourselves a *second* 16BL."

Bought a Second One

Another film maker still using his 1965 BL *also* bought a second one. Because he works for a government agency, we can't publish his name. If you call us, though, we can give it to you privately.

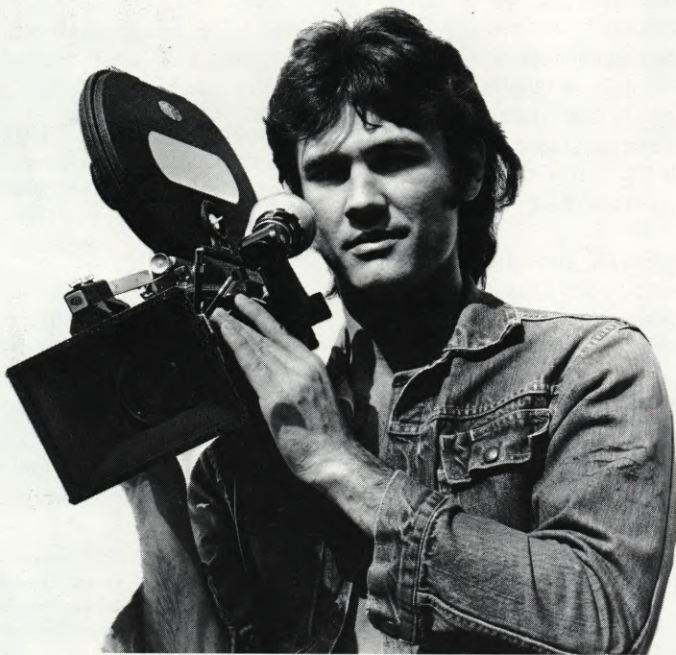


Joe Davis

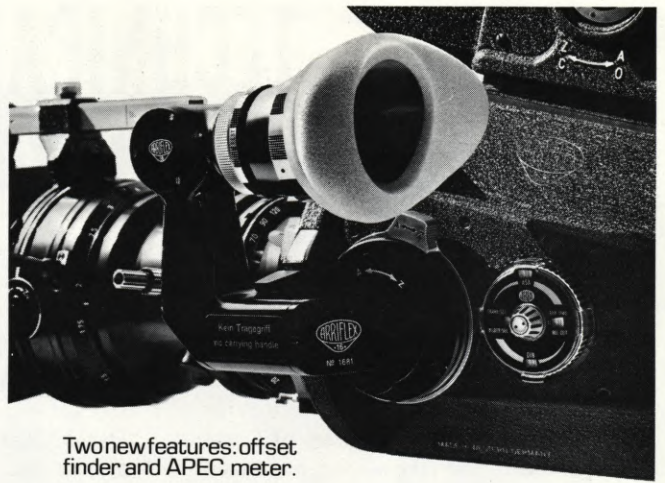
Cameraman Joe Davis works for the Orange County Board of Public Instruction, in Florida. He's still shooting with his 1965 16BL. He once spent \$32.00 on the motor. And that's all.

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"I enjoy working with that Arri," says Mr. Davis. "And you can't ask much more than that from a piece of equipment. It's like driving a Mercedes."



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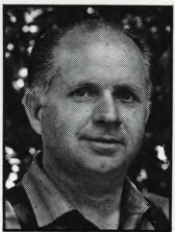
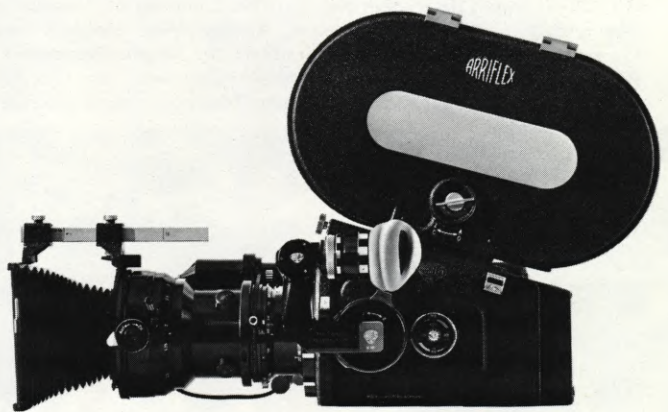


Greg Clapp

Camera Service Center bought a 16BL in October 1965. After five years of rental use, they sold it. Why? Because people wanted more recent 16BL models with the latest features.

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Says Greg Clapp, Executive Vice-President of C.S.C.: "That first 16BL was always totally reliable. So are the others. We have eleven of them on rental now."



Dana Fuller

Dana Fuller runs a rental business in San Mateo, California. In 1965, he bought a 16BL. While out on rental, it was stolen—so Mr. Fuller bought another one.

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"Ours is a small operation," says Mr. Fuller, "So I pick *solid* cameras that don't need constant servicing. All my 16BLs have been completely trouble-free."

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ARRIFLEX TECHNICAL PRESENTATION SPURS TURNOUT OF NEW YORK CINEMATOGRAPHERS

The "vibes" were good at the ARRIFLEX Spring Festival, hosted by the ARRIFLEX Company of America for the cinematographer members of Local 644-IATSE. The show was organized by Arriflex, with the aid of Chuck Austin, ASC.

More than one hundred cameramen attended this event, which was held at Camera Mart's Stage 54 in New York City.

The program included screening of the new ARRI film "The ARRI Image", produced at the plant in Munich, and which describes their design, development and manufacturing facilities and illustrates the care and expertise with which these professional cameras are built.

This was followed with a slide-illustrated lecture on the new ARRIFLEX 16SR camera now in production, but not yet in the field. All of this camera's trend-setting features were discussed in detail by Volker Bahnemann, Vice President of ARRIFLEX Company of America who co-chaired the program

with Sol Negrin, President of the New York Local 644-IATSE, an active cinematographer himself.

David Quaid, also on the program, demonstrated his specially-equipped ARRI IIC's. These cameras were equipped with 1400mm and 3000mm Questar Lenses designed for motion picture applications by Quaid in conjunction with the engineers at the Questar company. Dave's contributions include vibration-dampening devices to permit these extremely long focal-length lenses to be used even at high-frame rates, follow-focus mechanism, and a gear-head with a 300-to-1 gear box ratio compatible with the narrow field of view of these lenses.

Examples of commercials showing the very unusual cinematography Quaid was able to achieve with his ARRI equipment, were projected for the audience's reference.

Finally, the floor was open to discussion, and the cameramen in the audience exchanged ideas with Mr. Bahnemann and Bob Arnold of Arnold

& Richter, Munich.

The cameraman audience explored in great depth a variety of areas concerning operational characteristics of ARRIFLEX cameras when used under an extreme range of environmental conditions.

They also inquired about delivery of the new 16SR ARRI, as well as accessories for the 35BL.

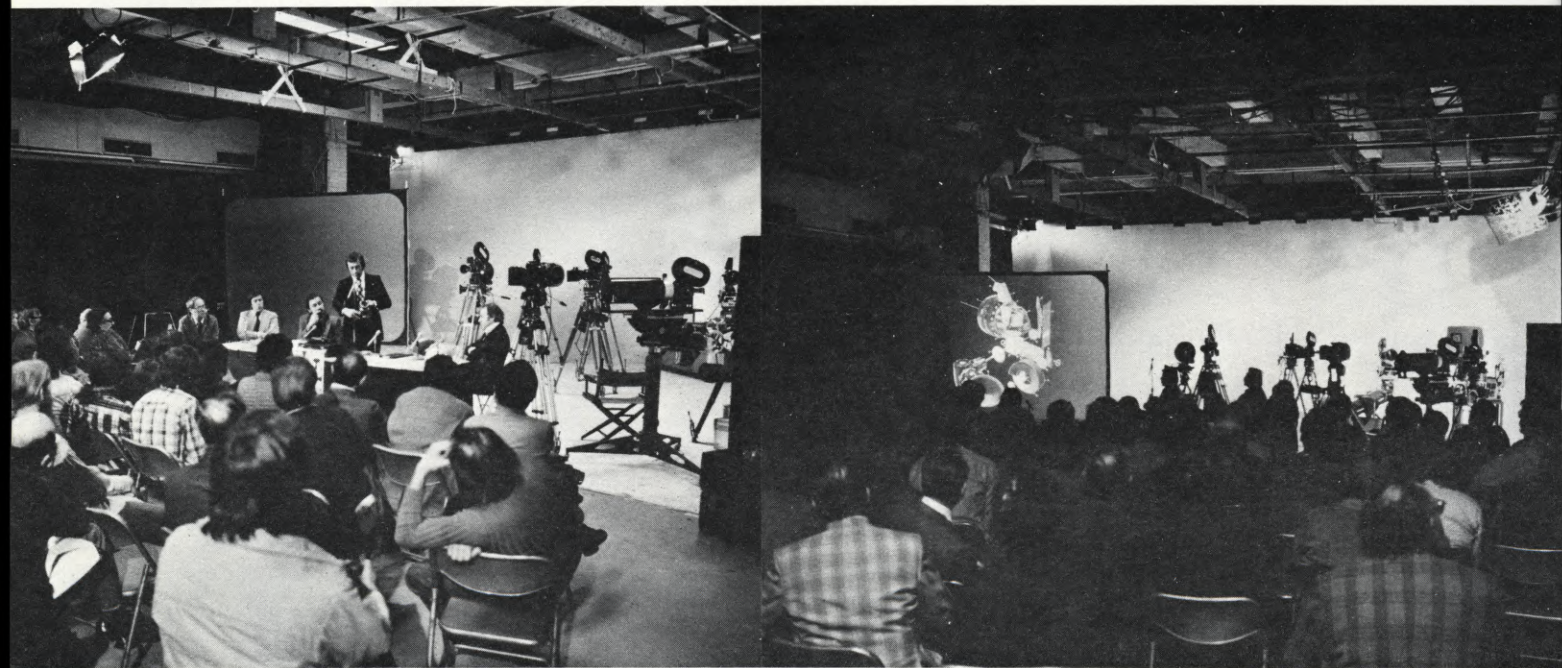
Volker Bahnemann, and Bob Arnold, were able to bring the latest factual information to this 644 group.

On stage literally every new ARRI product was on display, and this equipment was demonstrated to cinematographers by technicians from the ARRIFLEX Technical Center in Woodside, Queens.

A full range of ARRI technical literature was supplied to the 644 members in attendance, and the 35BL ARRI Operational Manual was included at no charge, for their reference.

Mr. Claude Cheverau of Cheverau's Paris, France was also in the audience.

(LEFT) At recent Spring Festival, Arriflex Company of America entertained east coast Directors of Photography of Local 644, IATSE. The event was hosted by Volker Bahnemann, Arriflex Vice President (standing), and other program participants included David Quaid, David Quaid Productions; Leo Rosenberg, Camera Mart; Sol Negrin, President Local 644; Bill Horgan, Business Agent Local 644 and Robert Arnold, Arnold & Richter. (RIGHT) A screening of "The Arriflex Image", the new Arri film, was a highlight of the evening. Here, in rear-screen projection, can be seen the APEC sequence and the diagram describing how precise automatic exposure control is achieved.



THE NEW MINOLTA AUTOPAK-8 D12 SUPER-8 CAMERA

A highly sophisticated Super-8 camera that includes such professional features as: a 12-to-1 zoom lens, macro focusing, automatic exposure control with override and variable shutter

Minolta Corporation has introduced the Minolta Autopak-8 D12, a Super-8 movie camera offering extensive versatility and special-effects capability through a wide range of built-in features and accessories.

Built-in features include a 12:1 power zoom lens with macro focusing, through-the-aperture automatic exposure control with override and full manual adjustment options, filming speeds from 8 through 54 fps, plus single-frame, automatic lap dissolves, automatic and manual fades and a vari-

able-sector rotary shutter.

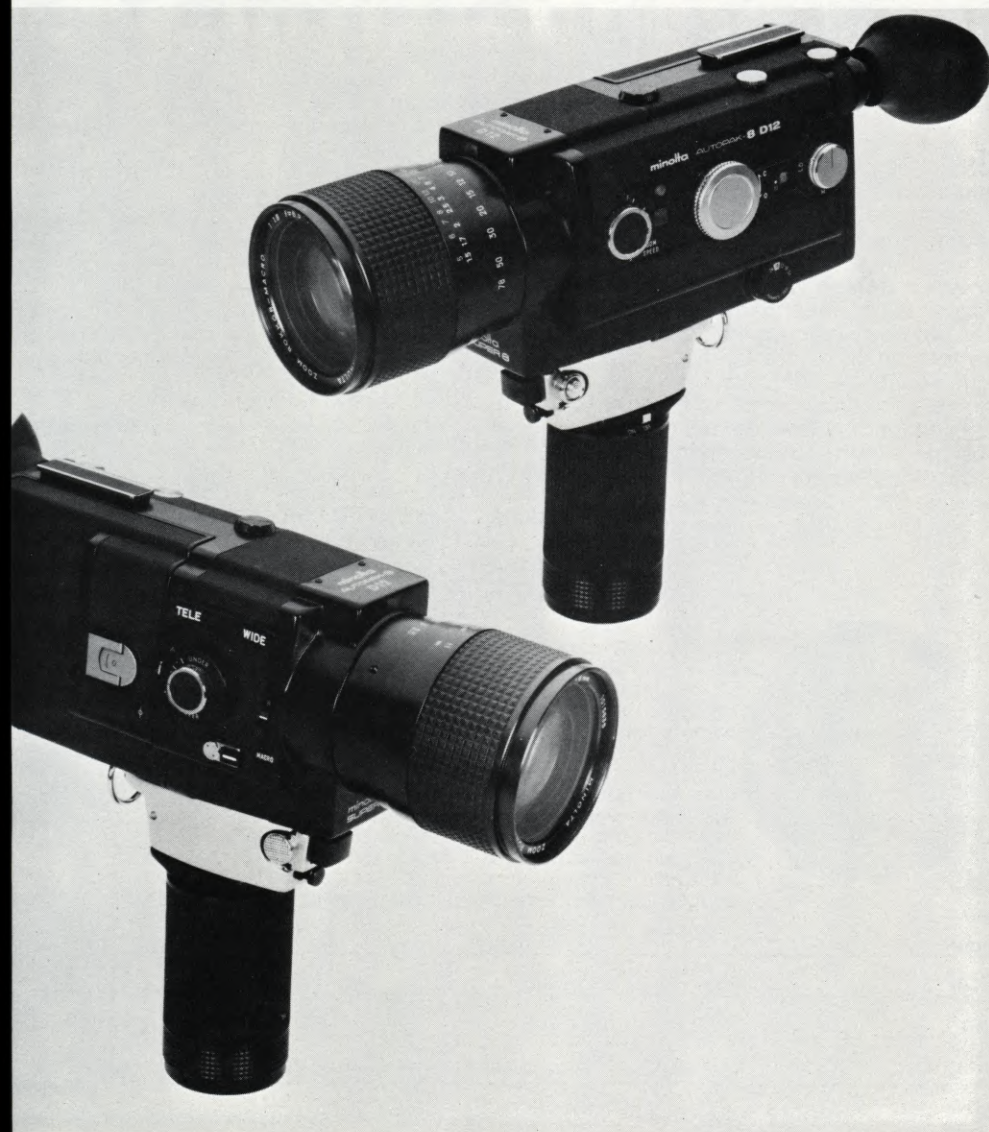
Optional accessories for the Autopak-8 D12 include two different intervalometers for time-lapse and motion-analysis photography, remote release cables, wireless remote control equipment and a tape recorder control cord for synchronized sound recording with a cassette recorder.

6.5-78mm f/1.8 Zoom Rokkor Lens with Macro Focusing

This 12:1 zoom lens consists of 16 elements in 13 groups, and has Minolta's patented Achromatic coating for opti-

mum color rendition and contrast. Power zooming is adjustable in five steps to cover full-range zoom speeds from 2 to 12 seconds. Manual zooming is also possible with a lens lever that may be positioned for convenient right- or left-hand operation. The 6.5-78mm focal-length range extends from one of the widest settings available on any Super-8 to extreme telephoto. When switched to its macro focusing mode, the lens can be focused on objects from 16.5 feet away to those actually touching the lens surface, covering an area as small as 1-1/8 x 1-5/8 inches. Subject fields as small as 9/16 x 3/4 inch may be covered with an optional Minolta Close-Up Lens attachment.

THE MINOLTA AUTOPAK-8 D12 SUPER-8 CAMERA



Through-the-Aperture Automatic and Manual Exposure Control

Consistently accurate exposure control is achieved in the Autopak-8 D12 by a unique metering system that measures light after it passes through the lens aperture. Compensations for frame speed, focal length, zooming and filters are made automatically. Film speeds are keyed automatically by the Super-8 cartridges. The D12's meter system can accommodate daylight film speeds from ASA 10 to 400 and artificial light film speeds from ASA 16 to 640. EE operation right down to a lens aperture of f/45 virtually eliminates the need for neutral density filters.

Modification of auto-exposure settings may be made over a range of $\pm 2EV$, and full manual exposure settings are possible.

Total Information Viewfinder

Besides providing bright through-the-lens viewing and positive split-image focusing, the Autopak-8 D12's viewfinder presents all information needed during filming.

Visible in the finder are an f/number scale, over/underexposure warning signals, film safe-run signal, shutter-opening fade indicator and a film-end signal. The finder eyepiece itself focuses and locks to accommodate individual eyesight requirements, and is equipped with a shutter curtain to prevent extraneous light from entering the finder when the

Continued on Page 870

What the pros say about the Bolex 16 Pro.

On the drawing board the Bolex 16 Pro out-performs every 16mm camera we can think of. Of course, the only test that really counts doesn't happen on the drawing board. It happens on location. Here's how the Bolex Pro did there.



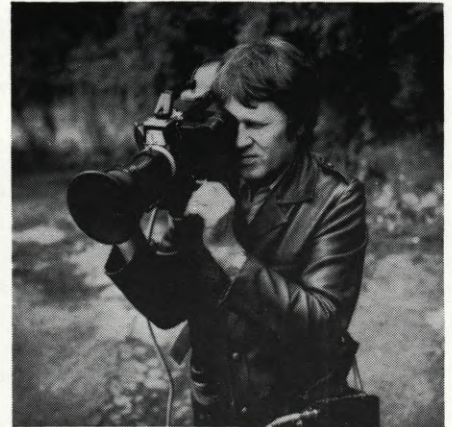
"We made an educational documentary about the Hindu Festival Thaipusam in Malaysia...the participants go into trance and are able to shut out any awareness of pain as they are pierced with small and large needles and hooks. Our shooting ratio during these tense moments...was one to one with only the head and tail frame getting lost in the splicing process matching original to work print....I must attribute these exciting moments in our films mainly to the uncanny abilities of the Pro to accept a new magazine, to thread itself and to film again in a fraction of the time usually needed with other cameras. This allowed me to roll nearly continuously at the most crucial moments..."

Gunter Pfaff, Filmmaker
Michigan State University



"...One year and 250,000 feet of film later...this camera has performed faultlessly. From the Peruvian Andes to the Arctic Circle, the ease of loading and the speed of operation afforded by the power systems have proven a tremendous boon. The automatic iris and the instant start and stop, without losing a single frame, are invaluable where lighting conditions cannot be controlled and time will not permit conventional editing. The self loading is so amazing that after more than six hundred magazines I occasionally peek into the take-up side, and sure enough—it worked."

Tom McEnry, Staff Cameraman CBS News



"It is the first time I had a camera which I did not have to bring in for repairs during such a long period.... Of special advantage to me are... motorized zoom and motorized follow focus.... On my job in Alaska...where I had to work without assistance, I first discovered the advantages of the motorized focus. It was like having an extra hand. I also relied on many occasions on the automatic iris which is built in the camera and it worked more than satisfactorily..."

...in Rochester Heights Hospital I appreciated the quick changes of the magazine and automatic threading of the camera, which enabled me to film surgical operations without loss of any phase.... Many times I have occasion to use the camera handheld ... and find that the well balanced design of the camera enables me to work freely and relatively tireless in these confined areas."

Rudy Herrmann, Documatic Films, Inc.



I am interested in a demonstration of the Bolex 16 PRO camera with its: Instant 400' magazine interchangeability, automatic threading from core to core in three seconds, electronically controlled instant start and stop motor (so quiet that no blimping is required), crystal control for wireless sound, variable speeds coupled to automatic exposure system, handgrip controls (power focus, start stop and powerzoom), 20X mirror reflex viewing, VF (can be rotated) with both ground glass or clear glass and no shutter black-out, outstanding zoom optics, and many more.

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FREDDIE YOUNG TALKS

Continued from Page 797

some of those rooms where you simply can't locate any sizeable unit where it should be?

YOUNG: Then it becomes a matter of ingenuity. One doesn't want to pin the director down to having to do the shot in a certain way just so one can light it well. The director still has to be able to be fluid in his choice of shots. It calls for a lot of ingenuity. I've had a very good bunch of sparks and grips and riggers on this picture—which has made it all pretty easy for me.

QUESTION: Just before the company shifted locations from London to Paris, I was with you during shooting in that fascinating building at 47 Parliament Street, as you recall. Can you tell me about some of the challenges of filming in such a structure?

YOUNG: Oh yes. That was the building opposite the Cenotaph in Whitehall, next to Old Scotland Yard. Well, that was a government building and we were lucky to be able to get in there. It's more than 100 years old and they're thinking of pulling it down.

QUESTION: That strikes me as amusing. A building that has been standing for 100 years would be considered quite old in my country, but in England, with its extensive history, I should think it would be thought of as practically new.

YOUNG: Yes, but you know how it is nowadays. On that same site they could put up a new building with twice the

accommodations. As for the challenges, you may recall my telling you, when we were shooting in that downstairs office, that my pet abomination is dark mahogany walls, because such highly-polished paneling reflects every lamp you have in the room. It's bad enough in the studio, where you can keep the lamps up on rails, but in a location where you've got to set lights on the floor, the mahogany paneling becomes almost like a mirror, reflecting each lamp back at you. What makes it more difficult is that you're not simply shooting static shots, but tracking and panning all around the room. Pine paneling is lovely, but any sort of highly-polished dark oak or mahogany is very difficult to cope with and has always been a pet abomination of mine. There are certain things one can do—like bashing a light onto a white flat to reflect a bit of whiteness into the mahogany. Then, as a last resort, one can dull the paneling down with a bit of anti-flare, but that's not really the right thing to do. I like a polished surface to look like a polished surface.

QUESTION: Speaking of tracking and panning all around that room, I can remember watching you do one shot in there where you picked up Omar Sharif entering in the background and dollyed with him past a lot of foreground people until he entered that very tight alcove where the safe was kept. You must have had to use a very wide angle lens to keep the foreground people from becoming simply blurs as you moved past them.

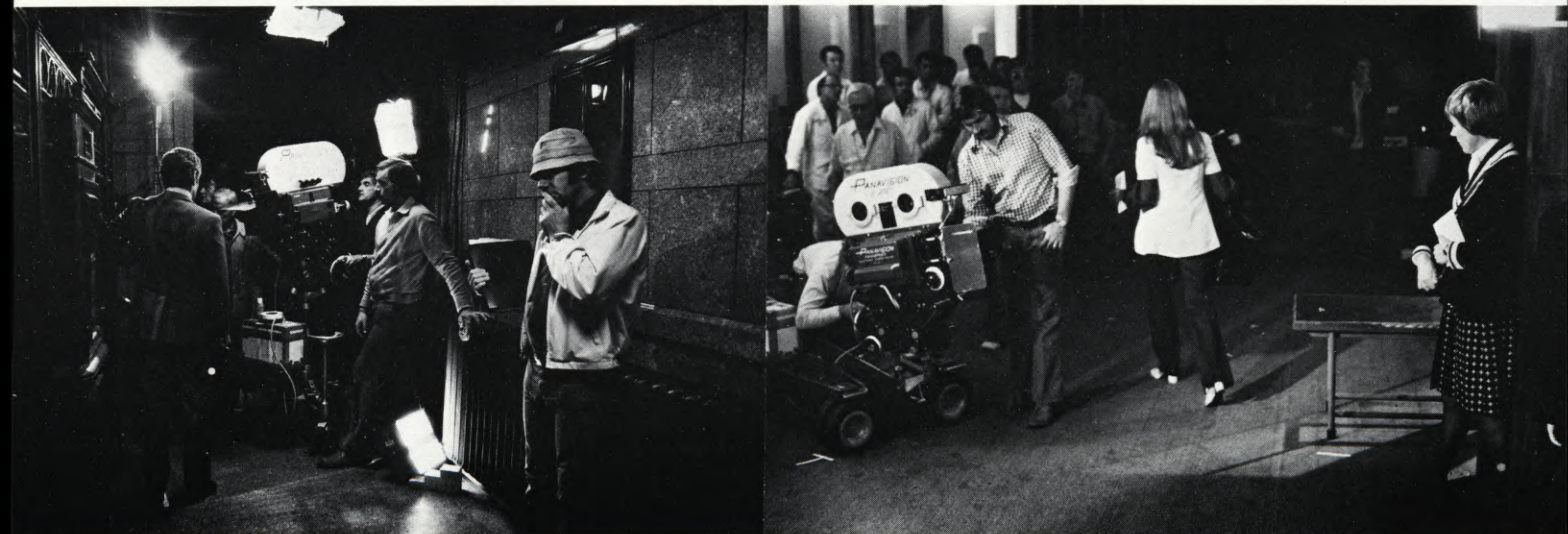
YOUNG: That's true. The nearest people were about four feet from the camera. Others were about eight feet

away, and Omar was about 15 feet away. We had an F/5.6 light, which made it a bit difficult. In such a case, you avoid putting too much light on the foreground people and you let them go a bit soft, because the audience is supposed to be looking at Omar. The slightly hazy, soft-focused people in the foreground simply create atmosphere. You're not trying to hold sharp depth of field.

QUESTION: True. "CITIZEN KANE" notwithstanding, it would probably be distracting, in the dramatic sense, to hold the foreground people sharp, in such a scene.

YOUNG: What was much more difficult was the shot that followed that one. We were on that little Elemack dolly and when Omar came out of that room where the safe was, we had to do a right-angle turn around a pillar (with a clearance of only three-and-a-half feet) and track about four feet ahead of him the full length of the room up to his exit. Again, we had all this shiny mahogany paneling and no lighting rails. It took a bit of time to prepare that shot, but it was what Blake wanted. I'm sure he knew that he'd given us a very difficult shot to set up and he just sort of disappeared until we were ready. An experienced director always knows when he's given you a real tough one to do and he just goes away and lets you get on with it. There's no point in his sitting there and watching. He would simply get everyone on tenterhooks. It's much better for him to go into the other room and think about the next shot he's going to make—which is what Blake did.

(LEFT) In the lower level of the building at 47 Parliament Street in London, Omar Sharif (back to camera left) rehearses a scene in which he gets off the elevator, while Assistant Director Derek Cracknell (at right) seems deep in thought. (RIGHT) Julie Andrews walks through the metal detection gate in the security lounge of London's Heathrow Airport terminal.





Blake Edwards takes a look at the scene through the viewfinder of the Panaflex (shown without magazine), as Freddie's practiced eye scans a final check of the lighting in the room. Asked what he does when he can't put lights where he wants them in tiny rooms, he says: "That's when you have to use your ingenuity."

QUESTION: I was very interested in those elevator (or I should say "lift") shots you were making in that old building. Can you tell me a bit about the mechanics involved?

YOUNG: Well, now, the lift shots turned out to be very rewarding. In that old building the lifts were of iron. I don't know how many tons of raw iron went into those lifts, but the bars were about 1/2-inch thick and not more than 1/2-inch apart. There were hundreds of them. It was the age of iron when those lifts were built and they were really using iron. When you do a lift shot in the studio, it's a big expensive problem. You have to get a lift technician to install the lift and rig it so that it will go up two or three floors. But if you can shoot it in a real place and use a real lift, it's very rewarding. You save an awful lot of money and it looks real. We didn't have any real problems in shooting those lift scenes.

QUESTION: From where I stood it looked like very close quarters inside that thing—especially since you had to get an operator and an electrician in there with the actor.

YOUNG: Yes, inside it was quite small. It holds about six passengers, I suppose. We shot two scenes in there—one with the old Russian and one with Omar Sharif. The camera operator was sitting on a box in the lift, with the lens about four feet from the actor, getting a sort

of head and shoulder close shot, with the lift going up all the time. The other man was hand-holding a little battery-operated Colortran light, which was just right. It was held about four feet from the actor to provide, probably, an F/4 light. Then we had the lights outside on each floor creating a sort of effect as the lift passed up through the various floors. It was a very cheap thing to do, which would have been very expensive in the studio. That's one of the advantages of working on location: you can get things like that which really pay dividends.

QUESTION: When I arrived in London you were shooting inside the terminal at Heathrow Airport. That must have presented certain problems.

YOUNG: We had four or five days there, shooting day and night stuff and it was rather tricky, filming at the busy London airport. You have to get permission to shoot and you have to make sure that you don't have cables running along so that people can trip over them as they come out of Customs, and so on. But the airport people were very good to us and everything went smoothly.

QUESTION: Can you tell me about some of the other interesting London locations you worked in before I arrived?

YOUNG: We spent a whole week shooting in a house in Eaton Place which had

been rented by George Axelrod, the American writer-director. It's a lovely house—Regency period, I believe. At any rate, Mr. and Mrs. Axelrod were kind enough to allow us to use it. They simply moved out and we took over for a week. We shot inside their sitting room, their bedroom, their kitchen, their hall, their stairways. I should have been petrified, had I been them, to allow a film unit to shoot in there. But I don't think we did any damage. We were very careful. We also did quite a bit of shooting outside in Eaton Place—on the streets, with cars dashing about and squealing brakes and things. Again I was surprised at the tolerance of the local residents, because it's rather a smart area and we thought that we might have quite a few complaints. The people were quite long-suffering. They were sort of out at their front doors and windows watching us, and when they were in the shot we'd have to ask them to move back, but we had very good police cooperation there. You can't really expect residents to put up with too much. On several nights we worked until 4:00 a.m., when dawn was breaking, but by that time I think everybody had got tired and gone to bed anyway.

QUESTION: I've noticed since I've been with you on this picture that many of your set-ups are low-angle shots, with the camera far below eye level. Obviously, there must be a reason for this. Is it a predetermined element of the visual style for this vehicle?

YOUNG: Blake does rather tend to squat down and get low-angle shots quite frequently. Sometimes it's with the idea of getting a ceiling into the frame or a building in the background. At other times it's to make things a bit more dramatic. Blake sort of goes around with his finder and tries to get something that's a bit unusual, and it's certainly more dramatic at times. With the anamorphic frame of the Panavision format one tends to have very little vertical height, so it's sometimes more interesting to go a bit low and see some height behind the subject.

QUESTION: I know that you've had only a limited opportunity to shoot with the Panaflex camera to date, but I'd like to know what you think of it so far.

YOUNG: Well, I think it's great. Unfortunately, when it first arrived, it had been damaged in shipment and there was a little broken piece of metal inside. We made a test and it functioned very

Continued on Page 852

AN IDEA GROWS IN BERKELEY

Starting on the shoestring of a vision, hard work and much faith, the Berkeley Film Institute now flourishes as a combination film school, public film forum and educational development center

By MAURICE SOLKOV

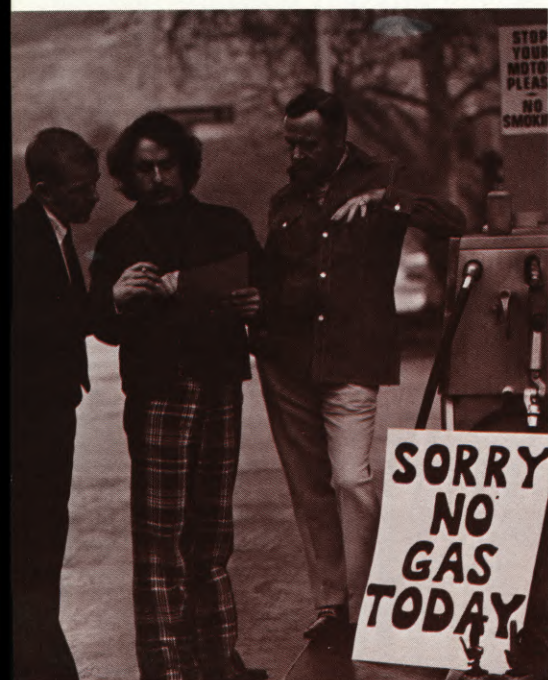
Berkeley Film Institute, Berkeley, California

Berkeley, California, radical mecca of the 1960's may well become known in the 70's as the cradle of a genuine grassroots movement in film-making and the other arts. The turbulence spear-headed by this scenic little college town in the last decade has created an environment conducive to virtually anything unconventional, and resulted in a large migration of people seriously interested in pursuing alternative styles of activity. Among these is a diverse group of film-makers who are successfully building a viable base for independent film-making and media education in the San Francisco Bay Area.

The Berkeley Film Institute is a film school, a public film forum, and an educational development center. It has occurred because the right combination of talents has come together under the right conditions. And it is succeeding because it is needed.

The Institute is the offspring of another organization known as the Berkeley Film House, which was founded two years ago as an answer to the dearth of opportunity that existed in Berkeley for anyone interested in making films. When it opened its doors, in July, 1972, the Berkeley Film House was to be a film-makers' community center with living and dining accommodations, film showings, production and editing facilities, equipment and supply

Jim Belsey (left) of the Sierra Club, Director David Elkin and Academy Award star Jack Lemmon go over script of public service spots on energy conservation for the Sierra Club.



store, laboratory, library, and technical classes. The original impetus came from a core of investors who incorporated, leased an ex-fraternity house, bought a projector, and declared the birth of a film-makers community.

The backgrounds and ambitions of the original group were about as similar as those of a football crowd. There was Alvin Warwas who earned an MS degree from MIT in Aeronautics and Astronautics and worked as a scientist for MIT before becoming a film-maker. He went to San Francisco and became cameraman and production manager on the documentary "MEDICINE AND AMERICANS", produced by Cy Pakzad's CinemaLab.

There was Carlton Thorpe who, after working for a couple of years as an electrical engineer, dropped out of a PhD program at U.C. to help incorporate the Berkeley Film House.

There was David Elkind, an independent film-maker who came to Berkeley after teaching for two years in the film program of the School of Continuing Education at New York University. David, who was not among the investors, set up the first classes in film-making for the Film House Members in Fall of 1972. The immediate favorable response to this was virtually guaranteed by the lack of a film department at U.C. and the result was the establishment of a new non-profit tax-exempt educational corporation, the Berkeley Film Institute.

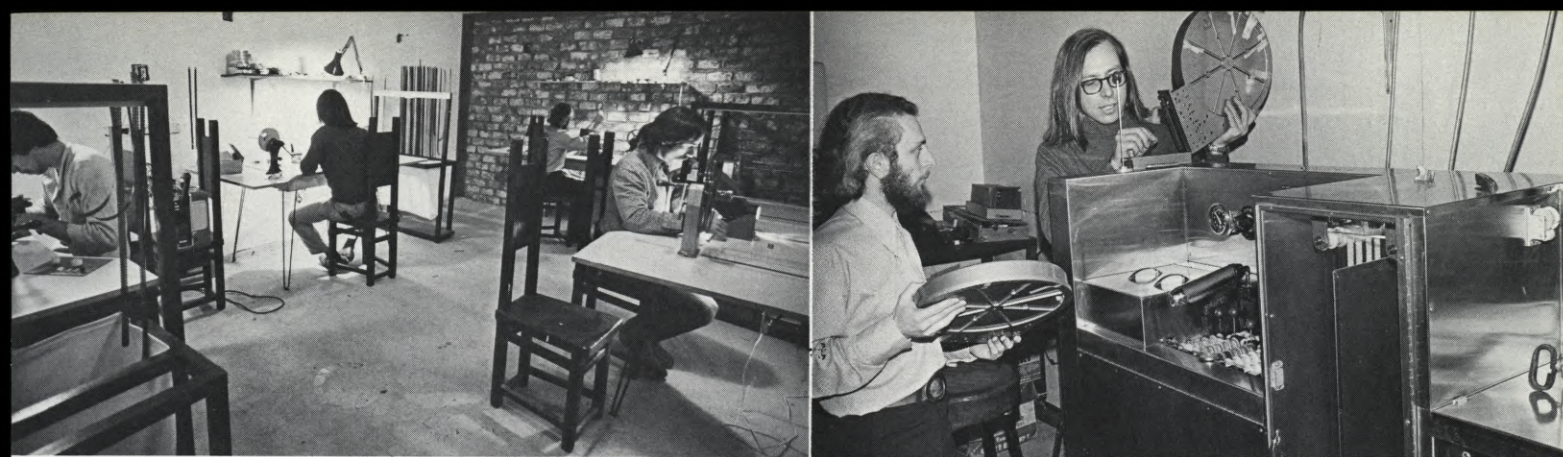
The Institute began in humble enough fashion with no money, no equipment, and no credibility. But it did have the resources of the Film House—space and people. The lack of money was offset by the absence of overhead and the presence of competent people willing to work for little or no pay. The lack of equipment was easily overcome with the friendly assistance of our local San Francisco rental house, Adolph Gasser, Inc. The credibility, of course, could only be built on a foundation of competent people and high quality programs.

The first courses offered by the Institute were for free, and the second round cost \$10.00. This gave us an opportunity to organize our curriculum and establish a bit of a reputation without

creating unfair expectations. Despite our inadequate facilities, we were able to provide a substantial variety of courses. Classes in production, sound, lighting, screenwriting, and directing were made possible by the flow of qualified professional talent attracted to the Film House. One such example is Lauren Kalka who came to us with an MFA in film from UCLA and began teaching screenwriting. Lauren is still on our staff as well as having subsequently been hired to teach for the University of California Extension in Berkeley. We functioned in this manner for nine months, providing many people with good instruction at a fraction of its real value. This, of course, could not continue forever, and in the summer of '73 we went legitimate.

FilmCraftsman 73 was an intensive workshop course in 16mm independent film-making, with students attending 10 hours each day, six days each week for five weeks. The inspiration for this course came from David's experience at NYU, where he had taught in such a program two years previously. Comparing the intensive method with the standard once-a-week evening format, it was David's estimation that the students worked harder, learned better, and derived greater satisfaction in this high-energy program. Once again the problem of limited reputation was an obstacle and we knew that we simply had to offer a better program for less money than could be found anywhere else. The course we designed gave solid basic instruction in cinematography, sound, lighting, editing, screenwriting, and phototechnology. Using the Film House's laboratory, we had the students doing their own motion picture processing and printing, using professional equipment. With no production equipment of our own, we were forced to rent and, consequently, our students used a

(ABOUT THE AUTHOR: MAURICE SOLKOV is a graduate of Ohio State University. After graduation he worked as a public information officer and social worker, and later, in his own words, decided to do something more relevant like photography. He is currently a director of the Berkeley Film Institute, manager of the photo laboratory of the Berkeley Film House, and a commercial cinematographer.)



(LEFT) Students taking courses at the Berkeley Film Institute utilize professional facilities available at Berkeley Film House, a former fraternity house originally leased as a kind of live-in community center for aspiring film-makers. (RIGHT) Maurice Solkov and Alvin Warwas set up the film laboratory at the Film House. Aid in buying and installing used 16mm processing equipment was extended by Eastman Kodak sales and engineering representative F.X. "Skip" Millor. This enabled Film House to become a commercial laboratory, processing Kodak Plus-X, Tri-X and 4-X reversal films.

greater variety of cameras, from the basic Bolex to the Eclair NPR.

During the first three weeks they worked in small groups, completing a series of eight progressive production assignments, ranging from elementary camera and optics exercises to edited lip-sync projects. This culminated in the final two weeks with the production of 60-second public service television advertisements for non-profit organizations. Our students shot these films in color, using professional equipment, cut and mixed multiple sound tracks, set up special effects, and cut their A&B rolls. This final assignment had many benefits. It provided them with a specific format and subject, freeing them to direct all their energy into making good films instead of deciding what sort of films to make. It limited them to something they could complete in the allotted two weeks. It gave them the experience of working with real clients on real films that had real purpose, thus eliminating the usual student film syndrome. And it provided non-profit groups in the community with good-quality films that they might not otherwise have been able to afford. The high quality of the films and the enthusiasm of the students for the project has led us to retain this assignment as a regular feature of our production classes.

Having succeeded with the big experiment we were ready to go into full operation. In the fall quarter we offered the full course lineup, plus a few added courses, but this time with formalized structure and at reasonable fees. We designed a modified version of the FilmCraftsman workshop, which meets every weekday evening and all day on Saturdays and Sundays, to accommodate those who can't attend full-time classes. This version has been in operation during the fall, winter, and spring seasons, while the summer workshop will continue to be a full-time program.

Our flexibility and our immediate access to human resources make it possible for us to adapt our program easily and quickly to changing circumstances. As an example, when Ronald Stefanich, a professional animator from Los Angeles, came to us last December, we had no problem adding animation to our winter course repertoire. Due to public demand, we also added a Super-8 course and even got Lenny Lipton to teach it. Lenny, perhaps best known for his book *Independent Filmmaking*, thinks that Super-8 is the greatest thing since the nickelodeon and is writing a new book devoted entirely to Super-8 film-making. But while Lenny's film-making is purely a labor of love, recent technological advancements in sound Super-8 production and playback are expanding its popularity and potential as a professional audiovisual format.

In that regard we stay in close touch with F. X. "Skip" Millor, a sales and

engineering representative employed by Eastman Kodak Company. On many occasions Skip has proven to be a knowledgeable consultant and advisor, as well as a personal interface between us and Kodak. The free engineering services that Kodak provides for film users through field representatives like Millor are extremely important to organizations like ours. We expect him to be a useful conduit of technical and product information, and also an expeditor to orders that we place.

Nonetheless, we were surprised when he helped the Berkeley Film House find a used 16mm processing machine to buy, and we were overwhelmed when he took the time to help install it. This enabled the Film House to become a commercial laboratory, processing Kodak Plus-X, Tri-X, and 4-X reversal films. This processor, in combination with the contact printer that Skip also

Continued on Page 864

The Film House also maintains a 16mm contact printer, shown here being operated by the author. While the Institute began with a haphazard handful of courses, it now offers a full curriculum with a formalized structure and at reasonable fees. This includes a FilmCraftsman workshop which meets weekday evenings and all day on Saturdays and Sundays to accommodate those who can't attend full-time day classes.



CAL-ARTS WORKSHOP

Continued from Page 839

stairs in the fascinating Bradbury Building in downtown Los Angeles.

By the end of Term I, before Christmas, shooting was completed within the schedule. The shooting ratio proved to be 4:1. Now two sets of dailies were made, both sound and picture. This was done in order to allow all students to work on the rough-cut, producing two versions of the work-print. From these two alternatives, the best version was composed for the fine cutting and laying of five tracks. Two cutting rooms with Moviolas were assigned to the workshop group for two terms. Fine cutting and sound tracks were done on the "flat-bed" Moviola console. In fact the last 48 hours before the sound-mix preview, a changing crew worked non-stop on the "flat-bed" with the help of Tom Barron, tireless workshop assistant in Term II.

The final deadline of this project was the end of Term II, when the 1st Answer Print, fresh from the lab, was screened for the final critique and discussion.

For me it was of great importance

that this workshop should develop not only the necessary basics of technical skills, but also team spirit among these students who were so new to CAL-ARTS and the strange desert environment of Valencia, 30 miles north of Hollywood. In spite of all the heated arguments in defense of their shots and cuts, as one student stated: "We are all still good friends after all these months together."

Looking at this experience in retrospect, we came to the conclusion that this type of workshop could become even more interesting if scheduled for one ten-week term, four days a week. In this way, students would be fully concentrated on the workshop project. I am also inclined to organize it next time as a documentary production on a broad enough subject so that the small initial crews of two (with others helping) could make their individual sections which could then be put together as a documentary essay on related subjects. This way there will be more personal involvement, for every pair of students will consider their sections to be totally their own.

The CAL-ARTS community, as such, could be a possible subject for such

documentary exploration.

CAL-ARTS consists of six art schools (ART, THEATER, DANCE, DESIGN, MUSIC, FILM & VIDEO) with a great variety of talented people and diversity of subjects, some as exotic as the Chinese martial art of T'ai Chi Ch'uan, practiced diligently by a large section of the student population.

It would be asking too much to expect this type of workshop production to turn out conceptual masterpieces, but as a basic training in film techniques it proved to be a very valuable experience.

I do believe that this is the way to go with the beginners, and at CAL-ARTS we have accepted this format of teaching for the summer school, as well, in order to provide a condensed crash course within six weeks of training.

As they say: If you want to learn film-making—go out and do it! ■

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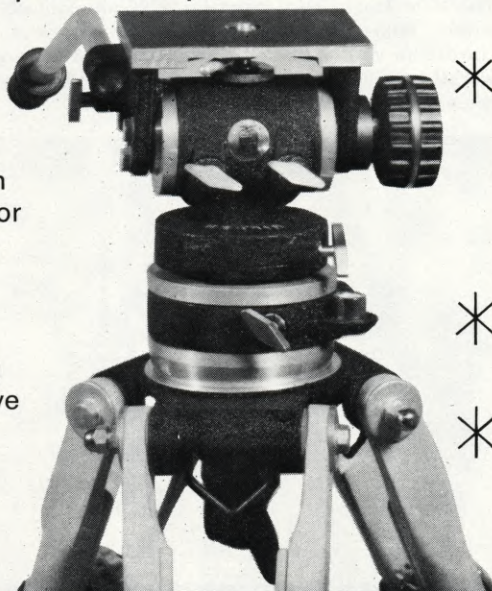
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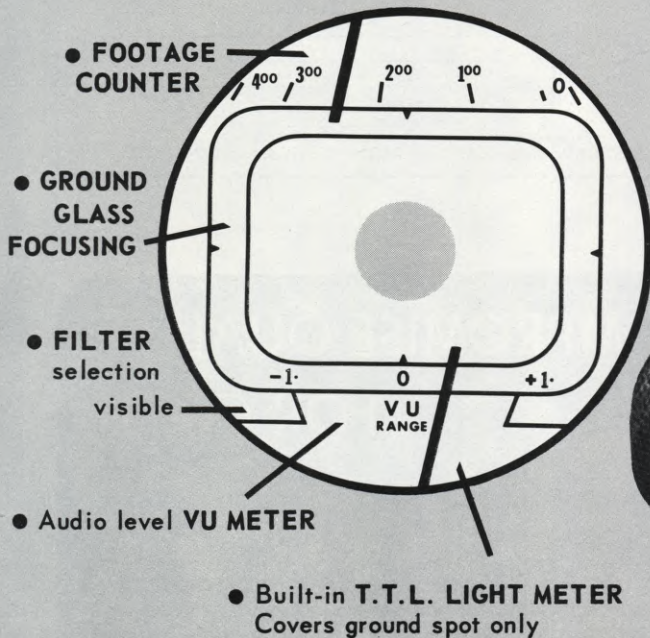
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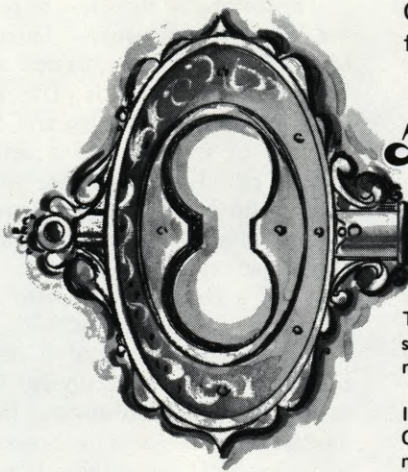


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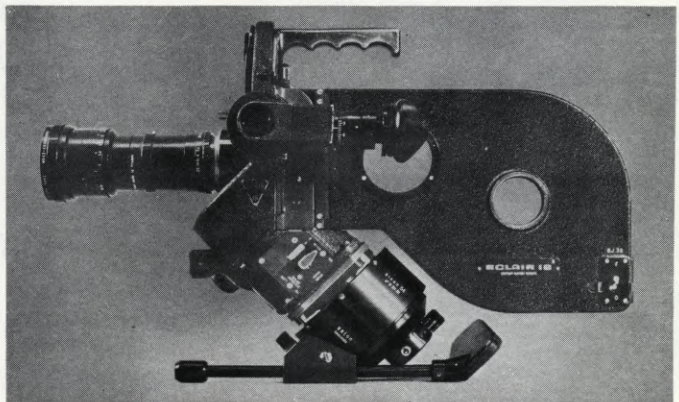
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"THE TAMARIND SEED"

Continued from Page 795

does the fine-tuning and shading on each individual lighting set-up. He's quite amazing. It's a kind of challenge to us all to keep up with his pace."

Shooting on the next day—and, indeed, during the next several days—is to take place in a wonderfully baroque old seven-story stone building at 47 Parliament Street, a crumpet's throw from the Houses of Parliament and the stately Big Ben Tower.

The building stands conveniently empty at the moment, but I am told it had recently housed bureaus of the Welsh Office and also, before that, had served as an annex of Old Scotland Yard, which glowers in Sherlock Holmes solemnity right next door.

The interiors are even more wonderful than the fortress-like facade. On the basement floor is a large Charles Dickens-type office panelled in polished mahogany. It has been dressed with furniture and office equipment to simulate a bureau of the Russian secret police.

An incredible iron cage of an elevator is located just outside the door and, as you ride up on it, you catch glimpses of other offices and stately high-ceilinged conference rooms, some of which are quite ornately decorated with rich panelling and intricate plaster scrollwork.

The first set-up is in the basement office, which has windows high up on its walls. The grips have installed 85ND-filter acrylic sheets outside these windows to balance the daylight showing through and convert it to the proper color temperature.

Lighting this room is something of a nightmare, since most of the lamps have to be positioned from the floor. This means that the walls act almost like mirrors in reflecting everything that is lighted. I can see that the unflappable

Freddie Young is none too happy at this state of affairs.

"Highly-polished mahogany walls are my pet abomination," he tells me, as he moves around with an aerosol can of dulling spray in a vain attempt to damp down some of the bright reflections.

Meanwhile, Blake has selected a low camera angle, shooting past rows of stenographers toward the doorway through which Omar Sharif (playing a threatened secret police official) will enter. There's quite a spread of distance between the nearest stenographer (about four feet from the camera) and that door, which means that a rather wide-angle lens will be needed. Also, in order to achieve the required depth of field, quite a bit of light will be necessary. The largest lighting units in the room are 5000-watt "Senior" spots, and there are only a few of those, but Freddie manages to hide some small quartz units in improbable places in order to boost the lighting to the desired level.

Blake calls for a rehearsal. Omar comes in the door, says a few words to a subservient female employee who jumps to attend his wishes and walks with her the full length of the room to an alcove where a safe is installed.

After the last scene has been shot in the basement office, preparations are made to shoot inside the elevator as it moves up and down through the various floors. This vintage lift is a kind of open cage consisting of multiple vertical iron rods, with a bit of wrought-iron scrollwork to add an artistic touch. Lights are placed on the various upper floors so that these backgrounds will be illuminated as the elevator does its thing.

Inside the claustrophobic little cage stands the actor (first Omar Sharif, then Oscar Homolka) with the Operator and his camera shooting from the floor. Wrapped around him, in a configuration that can only be described as connubial,

is an electrician holding a battery-operated quartz light. This strange safari moves up and down the elevator shaft for a number of takes and, in no time at all, the scenes are in the can.

The company then moves to one of the upper floors, where a large, rather ornate room has been dressed to represent an office in Paris. This room is blessed with a high ceiling and, through the use of Polecats and a convenient picture rail, Freddie is able to mount most of his lights up high. The resultant lighting effect is as smooth as anything ever rigged on a sound stage.

After a couple of rehearsals, Blake calls for a take. The action proceeds without a flaw until, right in the middle of an exchange of dialogue, Big Ben sounds off with his distinctive (and very un-Parisian) chimes. This breaks everybody up, but a second take is made and it's a good one.

PARIS

Filming has been completed in London and we've all moved across the Channel to the City of Light, where the final phase of filming on "THE TAMARIND SEED" will take place.

Blake and Julie take off on the weekend to relax at their chalet in Gstaad, Switzerland. I am ensconced, together with the key personnel of the company, at the Paris Hilton, literally in the shadow of the Eiffel Tower. Like all Hilton hotels around the world, this one has been designed to make Americans feel at home abroad—even to the extent of a restaurant called "The Western", which is decorated to suggest a set on the back lot of the old Republic Studios. It's a gas, but I must admit that the sight of French waiters prancing about in cowboy suits is a bit unnerving.

While the company is gearing up for the Paris shoot, I have a chance to talk to Art Director Harry Pottle about his chores on "THE TAMARIND SEED".

(LEFT) Shooting a "traveling shot" of Julie Andrews on the "people mover" inside the terminal of London's busy Heathrow Airport. Director Blake Edwards (far left) peeks out from behind the Operator to check the action. (RIGHT) Camera Grip Tony Cridlin tries the balance of the unique mount used to hand-hold the Panavision-adapted Arriflex camera, which, because of the heavy lens used here, would be very difficult to hand-hold without such a rig. Shoulder pads are adjustable on the rods, as are the battery-pack and counterweights at the rear.





(LEFT) In Barbados, as the "bad guys" (Russian agents) head for power cruiser in a small boat to make their escape after bombing beach bungalow, the boat is blown up by British secret agents sent to protect the protagonists. Between the bungalow bombing and this sort of thing, the special effects expert had his hands full. (RIGHT) Cool as a cucumber, Camera Operator Christopher Holden sits in the water holding the Panavision-adapted Arriflex, while Focus Puller Trevor Coop steadies the mount.

"The first thing I did after reading the script was to talk to Blake about the sets that would be required," he tells me. "The first time I met him was in Barbados and we went around and took a look at some of the things we'd found which we thought might be possibilities. We knew that we wouldn't be able to find a bungalow which we could blow up and set on fire for the ending of the picture, so we decided that we'd have to design one and build it. We found a location between the Colony Club and the coral reef and positioned the bungalow carefully on the beach so that it would face the best view. I designed it, did the drawings, got a contractor and left him instructions on how to build it to meet the filming requirements. We then came back to England and started looking around London for the locations we would need there.

"This proved to be rather more difficult than we thought. Originally we were going to try to do some of the

French locations in London, but we realized, after a while, that France is France and London is London, and you could never get interiors in London to look like French interiors. So I came across to Paris and, with the help of some French contacts, went around to some places which they suggested. I found the ones which I thought would most appeal to Blake, selecting one or two alternatives for each locale. Then he came along and spent a few days here choosing the ones he liked. It was rather simple, because we found that we were thinking along exactly the same lines. He told me to just go on looking for things, while he went back to complete the casting.

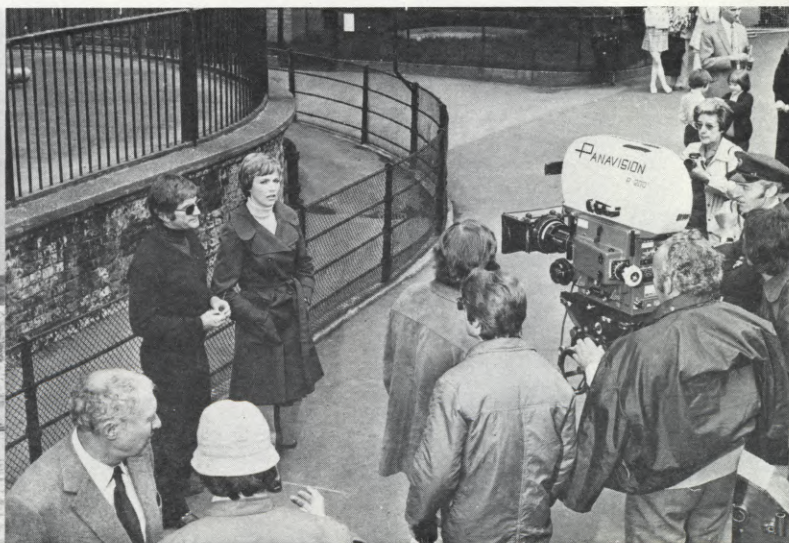
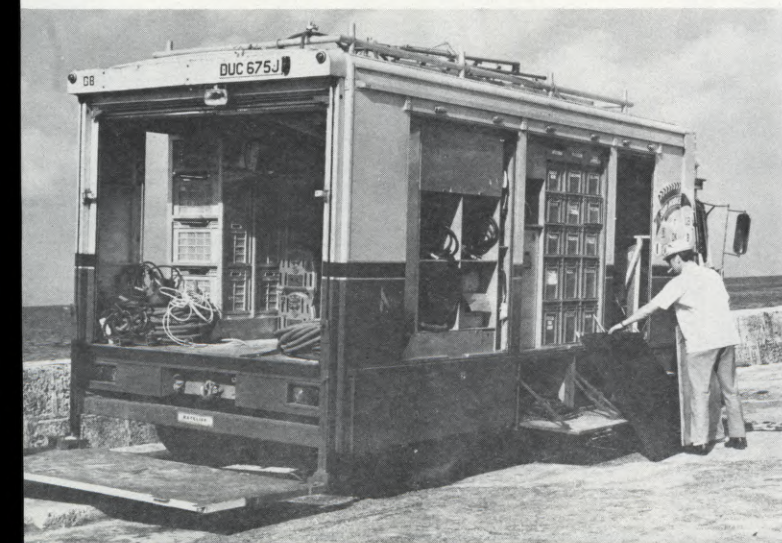
Knowing how crucial is the rapport between Cinematographer and Art Director, I ask him about his methods of working with Freddie Young.

"Fortunately, because I've worked with Freddie before, we already had a

Continued on Page 857



(ABOVE RIGHT) In Barbados, Producer Ken Wales is interviewed on camera by a crew of the Caribbean Broadcasting Company, which was making a behind-the-scenes documentary of the filming. (BELOW LEFT) The "SAM-MOBILE", rugged location vehicle from Samuelson Film Service Limited, London, was used throughout the filming of "THE TAMARIND SEED". (RIGHT) Director Blake Edwards gives last-minute instructions to wife Julie Andrews, as crew prepares to shoot a sequence in London's Regents Park zoo. "THE TAMARIND SEED" will be released later this year, with the premiere engagement at New York's Radio City Music Hall.





(LEFT) John Packwood, Assistant Cameraman, waits to cue actors, as crew prepares dolly shot at campsite in Georgia's Stone Mountain State Park. (RIGHT) Sound Recordist Alice Erber works with Nagra IV-L. UFO: TARGET EARTH was originally conceived as a low-budget feature which would "explore the relationships of mythology versus technology on a psychological level." This esoteric goal was achieved in the film through the use of analog-programmed image-processing techniques.

UFO: TARGET EARTH

Continued from Page 790

sound, and several times we had to blimp and blanket the camera. The only disadvantage was that we had a problem with sound coming off the lens when we used the unblimped zoom. The only other disadvantage was the fact that we could only get hold of two 400-foot magazines for the camera. This kept our assistant cameraman, John Packwood "in the bag" most of the time. We really feel that the advantages of the 35BL outweigh some of its small disadvantages, and that it will see more and more use on larger pictures.

Our camera crew consisted of three men. Cameraman Brian Roy had to become a contortionist in some of the camera moves called for by the director. The resulting footage was amazing. All of the moves were very smooth and flowing. Brian is one of the best in this area for flowing camera movement. However, because of the budget limita-

tions on time, we had to restrict a lot of movement and shoot more static shots.

We also used a minimum of lights on all locations. We lit the huge Fernbank Planetarium (the third largest in the U.S.A.) with only four lights: A FAY on the domed ceiling to give the blue sky effect, two FAYS as rim light on the audience were used and hidden behind the ZEISS projector from the camera angle, and a 750-watt softlight was snooted down to light the speaker platform. All interiors and night-for-night footage were pushed one stop in processing. We tried to get enough of the new 5247 Eastman color negative film for the production, but, after checking into the available lab situation, we found that most of them were processing the new film in the old 5254 chemistry. We decided that there were too many variables with the new stock to use it so quickly.

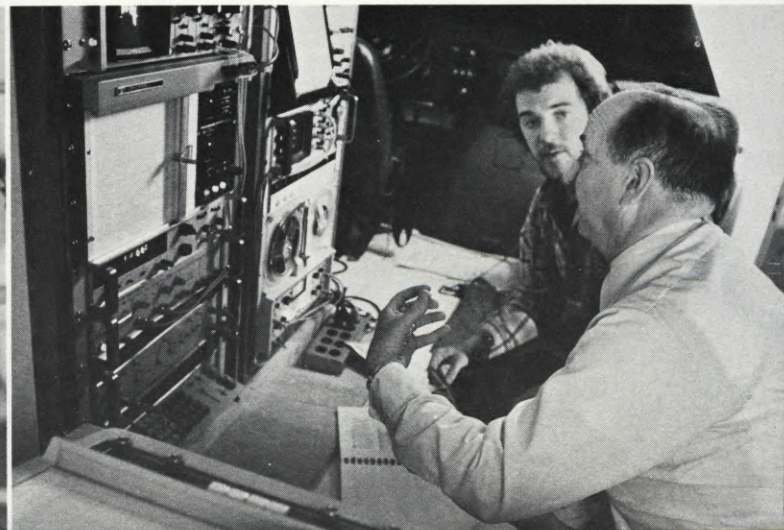
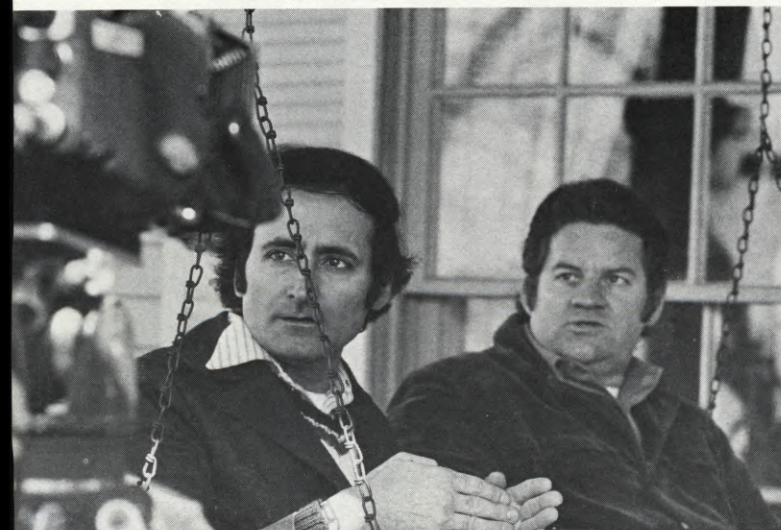
At the same time that Nick Nizich and Bob Libby were enjoying the sunny, inviting climate of Costa Rica,

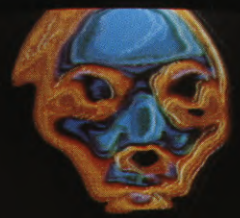
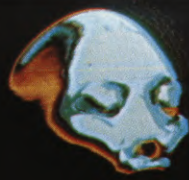
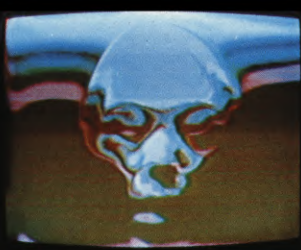
where they were busy photographing an eclipse, in the wintry cold of a snow-bound Chicago, two industrious assistant professors at the University of Illinois, Dan Sandin and Thomas de Fanti, were collaborating to design and produce unprecedented effects footage. Dan, a physicist by training and an artist by choice, had invented and built his own Image Processor, uniquely designed to take video input. Unlike the digital computer, which stores information, Sandin's analog computer alters video signals. De Fanti, a specialist in computerized education, contributed his expertise in the computer field.

The Image Processor, made up of modules which are patch-programmed (or programmed by patch cables), receives black and white video signals, processes them and changes the black and white value ranges to color. Four sources of input are now possible: feedback from the system itself (i.e., video camera photographing the screen); a live

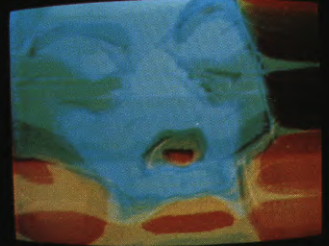
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(LEFT) Producer/Director de Gaetano sits in swing with Director of Photography Jerry Crowder and explains the camera move he wants for the porch scene. (RIGHT) Don Ward, Field Operations Manager for Hewlett-Packard Corporation, explains operation of the complex equipment to Tom Acuragi, who co-stars as Dr. Rivers. UFO: TARGET EARTH was made on a 14-day shooting schedule and shot entirely on location.

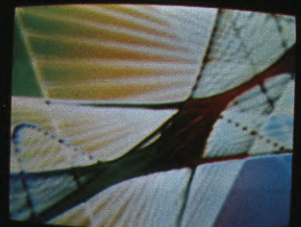
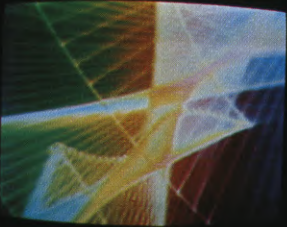




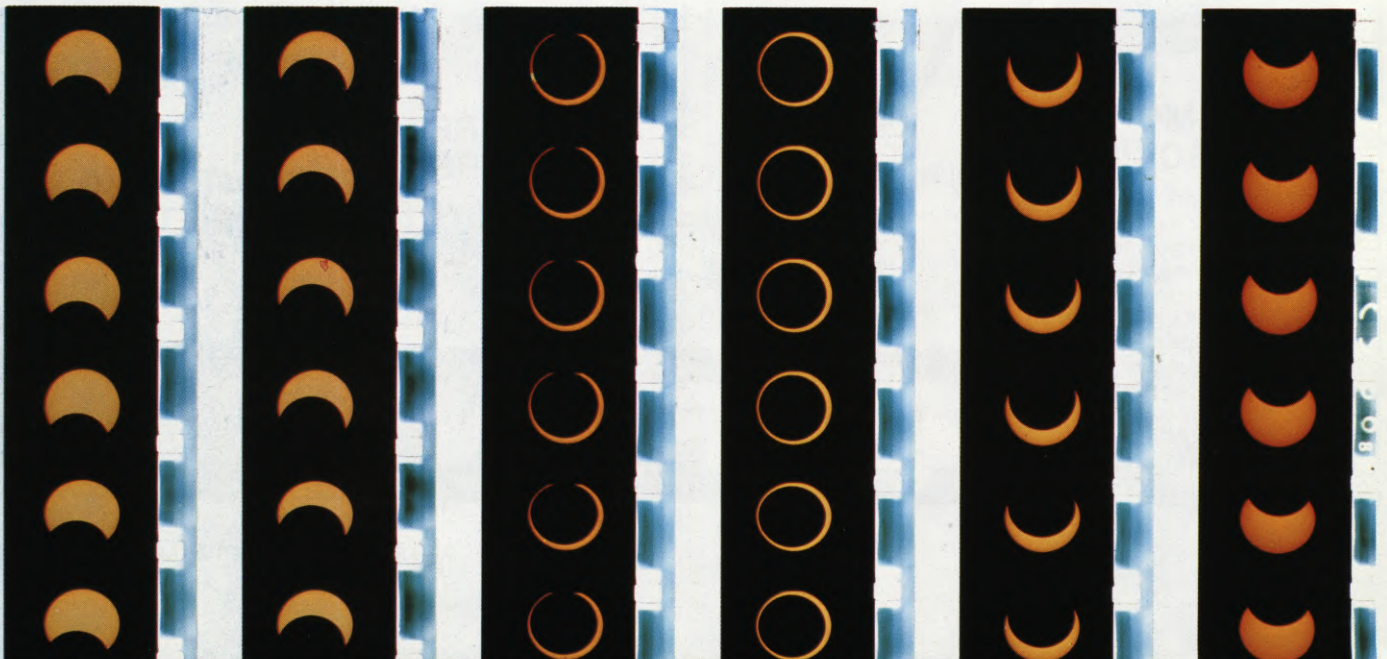
(ABOVE AND BELOW) A few of the many altered images of a live subject, as displayed on the monitor in Sandin's lab. Such images were used to show the presence of "alien beings" in the film "UFO: TARGET EARTH". Such special effects, if done optically in the conventional film manner would be very time-consuming and expensive. The Image Processor makes it possible for them to be created rapidly and economically.



(BELOW) Images of a more abstract geometric type can also be generated through the Image Processor by using a variety of inputs. The Image Processor, made up of modules which are programmed by patch-cable, receives black and white video signals, processes them and changes the black and white value ranges to color. Four sources of input are now available, but more are under development.



Progressive clips from the 16mm film of the annular eclipse photographed by Nick Nizich and Bob Libby in Costa Rica. This footage was shot with the combination of a 500mm Kilfitt Telephoto Mirror Lens and a Micro-line Sun Filter. The one major problem was keeping the sun in frame. This was solved by mounting the camera on an equatorial mount, a clock-driven device that compensates for the earth's movement and maintains the sun in a fixed position.



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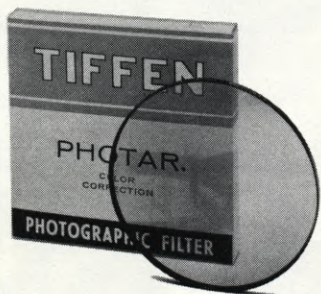
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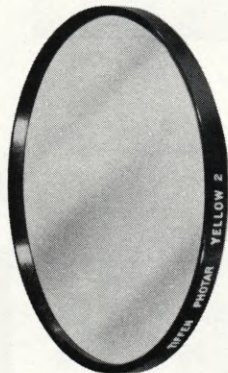
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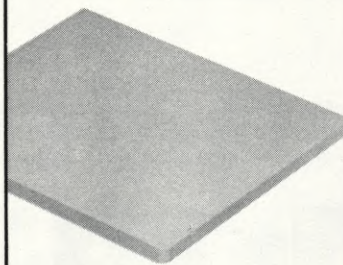
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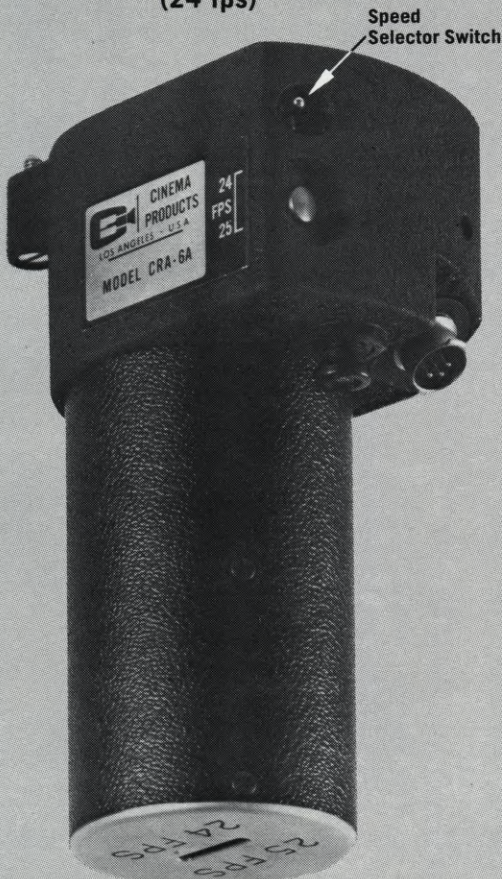
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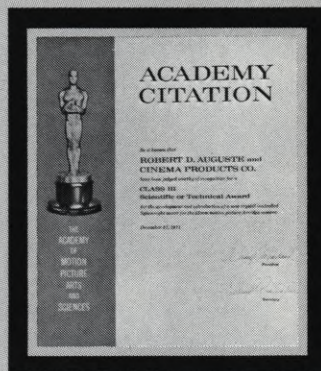
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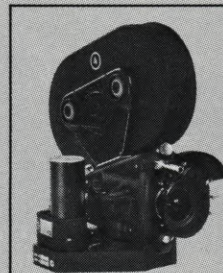
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The making of a new kind of corporate industrial film, created for the big screen and mass audiences, featuring the visual beauty of the landscape and the human values of modern diesel railroading

By HARVEY LLOYD

Writer/Director

*"Hummin', hummin' on the rails,
On the shiny shiny trails of
tomorrow"**

We careen off the tracks near Glacier Park, Montana. Our high-rail car driver curses; we jump out, looking for rattlesnakes on the track. Our Eclair, rigged in front of the special auto, is okay. A closed switch derailed us on the Burlington Northern main line, surrounded by great peaks. The two-way radio keeps us in touch with the railroad. We assume the big diesels aren't too near. We lever the car off the embankment and drive off on the fortunately nearby highway. The high-rail car is a standard sedan equipped with small steel wheels that jack down and keep our tires on the rails. We have a plywood extension bolted to the front as a platform for cameraman, assistant and Eclair on a low tripod. Filming a great diesel freight railroad is a nightmare of logistics problems and weather. We are fighting all.

*"In front of me, my destiny,
In back of me how distant is my
sorrow"*

Byron McKinny, executive producer for Francis Thompson; Al Rung, Burlington Northern's V.P. for Public Relations and Advertising; and myself, writer, director, producer on the film, toast with Cold Duck at dinner in our private company railroad car. Sun is setting over the North Dakota Prairie; thick steaks are on the stove; we are lulled by the clocking wheels and golden light. We have been a week in the special car, hooked onto passing freights, scouting the railroad for our film.

Burlington Northern is a sprawling 26,000 miles of track from Chicago and St. Paul to Seattle, down into California, across the Rockies, Denver and Kansas City, and down to Fort Worth and Houston. Burlington Northern hauls wheat and timber and coal, produce and manufactured goods.

*" . . . there's signal lights,
and rainy nights in Portland,
and the windy track way back in
Idaho"*

We saw a lot of country in the special car. We lived the best we could on the

film. Waiter and chef, private state-rooms, good hot food and the panorama of America clicking by: dawn over the Libby Line . . . pale moon in a grey sky . . . grey clouds and brown mountains . . . harsh black and white sunrise . . . breakfast in Whitefish, steam clouds in the icy summer dawn . . . wet rails and black ties on a slow grade through Steven's Pass in the Cascades . . . grey rocks and bleached tree skeletons . . . light strobing black timbers of snow sheds in the Rockies . . . white sun and white earth . . . white roadbed and carved sandstone cliffs along the Snake River in Washington . . . a thin line of green freight cars . . . black tunnels in the tortured cliffs . . . blue skies and towering thunderheads in Nebraska and the Dakotas . . . the smell of golden wheat and corn and hay . . .

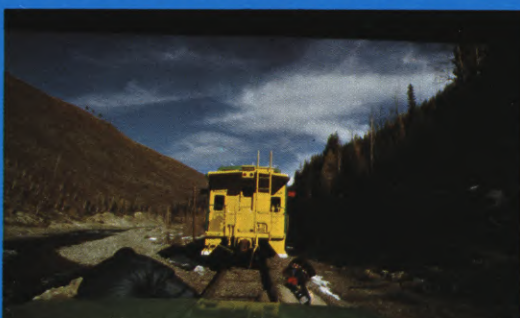
*" . . . there's a ranch house with the
people who wait in Wyoming',
zoomin' by too fast for one
hello! . . ."*

We fly into Spokane, drive 60 miles into Cofax for the wheat harvest in

(LEFT) In Cashup, Wyoming . . . down on the tracks for a low-angle shot of the local train. (CENTER) Filming a train order scene in Illinois. Plywood planks are laid so that the crab dolly can make a long, smooth move. (RIGHT) A wheelchair rig comes in handy to add movement to an interview sequence shot in the Seattle train terminal.

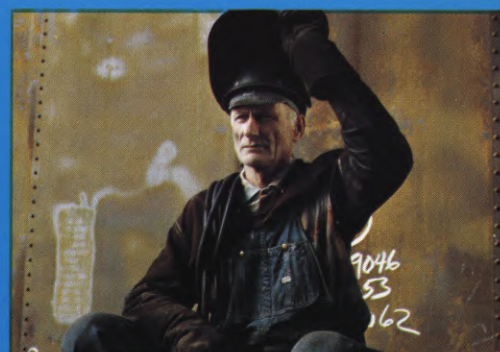
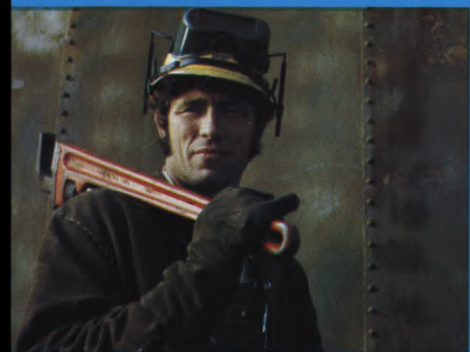


(LEFT) Lights are rigged and a cherrypicker is used to shoot the final credits scene of the picture. Don Guy shooting camera. Michael Becker on sound. (CENTER) The high-rail car is used to do a "follow shot" of a pretty yellow caboose in Glacier Park, Montana. (RIGHT) Cameraman Don Guy and Assistant Cameraman Ziemowit Kozbial shoot from the platform of the high-rail car.





(LEFT) The railroaders of Burlington Northern's Nebraska diesel shop line up for "portrait" shots. (CENTER) The accent is on people, so the men are photographed separately in closeup. A quartz lamp stands by in case it is needed for fill light. (RIGHT) The personal touch. At Cashup, Wyoming, the Cameraman rigs his tripod atop a covered hopper, while the workmen roll it by hand.



A strange breed of men from exotic places—or a new accent on American Gothic? People make the railroads go—all kinds of people: massive welders, funny fat tool shop men, giant ironworkers, long-haired young apprentices and wreckers looking medieval in their hoods—carrying great wrenches, welding tools, colors etched into their heavy leather protective clothes. A varied and colorful breed, railroaders.



(LEFT) Don Guy rides the bucket of the cherrypicker to get a "crane shot" of a signal post somewhere in Nebraska. (CENTER) Shooting in a Burlington Northern repair yard gets a bit fancy—what with a scrim and Lowel-Lights to shoot the "Portraits". (RIGHT) Shooting a sync-sound interview at the Balmer yard in Seattle. It's not only how the railroaders look that counts, but what they say and how they think.

August. The film isn't written yet, but the harvest won't wait. Cameraman Eliot Noyes and soundman Mike Bortman, camera assistant Tony Ganz and myself find the wheat farm in time to set up just before sunset. We get some of our most beautiful footage in a whirl of frenzied activity in the dying afternoon—wheat combines ghostlike in the dust, beams of golden light through black silhouettes, yellow wheat and red tractors. We stop as the sun rolls behind the gentle hills, drive into town for a dinner of hot pancakes and sausage, exhausted and content.

*"... Hummin', hummin' on the rails,
On the shiny, shiny trails of
tomorrow,
In front of me, my destiny,*

*In back of me, how distant is my
sorrow..."*

Back in New York we look at the wheat rushes. They are good. I go to work writing the treatment for the film. We plan a new kind of corporate industrial film, conceived and created for big screen, mass audiences. We will eliminate hard sell, feature the visual beauty of Burlington Northern's landscape and the human values of modern diesel railroading across the great arc of West and Northwest. I envision a film of movement, tiny trains in a vast landscape... freight cars moving through the land by day and by night, dependably hauling 136,000,000 tons of goods a year, mile-long trains on steep grades and horseshoe curves... down the Co-

lumbia Gorge and over the Cascades... across the endless plains of the Dakotas, Nebraska, and Kansas... breaking out on the Pacific along the Chuckanut Drive and the Olympic Peninsula... a vast network of rails and communications tying together the limitless lands of the Midwest and Northwest... and out to the gateway ports for Alaska, Canada, Australia, Japan, and the Orient.

And the people of the Railroad... 43,000 men and women who make the railroad work... the people who drive the giant diesels and man the communications... the computer operators and yard men in the vast classification yards, the welders and operators in the repair yards and diesel shops... the gandy dancers on their yellow track cars

and the "hostlers" in the freight yards in a hundred towns . . . the chemists and painters and electricians . . . the mythic people of the railroad, heroes of a hundred folk songs.

I write a treatment of a railroad in motion, of trains and people and the people they serve . . . grain farmers, lumbermen, coal men . . . iron workers and office workers, and the endless eternal land.

*"Steel guitar strings, coffee cups, and postcards,
And 11,000 telephone poles,
There's a lady on a calendar from Kansas,
In the month of May that's where I'm gonna go . . ."*

We plan a long shooting schedule, eight weeks beginning in mid-September. I know we will have weather problems in the far reaches of the west, and in the mountains. Eliot Noyes, our cameraman for the wheat, is not available. We get a new cameraman, gifted with a sensitive eye, Don Guy, Dave Burke, unit manager Michael Becker on sound and assistant Ziemowit Kozbial go with us.

We are off on an unknown journey of complex logistics. Diesel trains and high-rail cars, helicopters, cherrypickers, and crab dollies in the most unlikely places. Schedules and weather, lighting and rigging, and split-second coordination begin. We plan a highly visual film of carefully set up and planned shots. We want to create the production values of a feature. Because budget keeps us on 16mm we are going to shoot on fine grain 7252, unless desperate. We expect to blow up for theatrical release to 35mm. We want absolute quality.

" . . . Hummin', hummin' on the rails,

(LEFT) Setting up between the tracks for a low-angle shot of a train approaching, somewhere in Nebraska. (RIGHT) Cameraman Don Guy sets up to shoot a scene outside Oakesdale, Washington. An eight-week shooting schedule was allowed for filming in many far-flung locations on this picture. The logistics were most complex. It was necessary to arrange for Diesel trains, high-rail cars, helicopters, cherrypickers and crab dollies in the most unlikely places.

On the shiny shiny trails of tomorrow . . ."

SCENE:

Train orders are given by hand, as well as by radio. The depot agent holds up a forked stick with a message tied to it for easy release. We set up at a tiny depot 90 miles from Chicago. We plan a crab dolly rising shot, dolly moving back as train approaches; shot opens on depot door, agent appears holding stick in closeup, dolly back to reveal grade crossing and signal lights, rise past lights and zoom to wide shot of scene as a train thunders by. We laid planks for the dolly. Ten men pulled planks on both sides, men on the track side a bit nervous with the big diesel roaring past. Burlington Northern gave us men, electricians, and the use of track and train with BN green diesel engines used specifically for the occasion.

We did the shot over 9 times. Each time something showed in the finder, ruining the shot for Don's critical eye, usually a late-pulled plank. Trains don't just stop and back up; they go on a quarter mile to stop, back up slowly, bells ringing. At dusk, in a drizzling rain, we made it perfectly.

SCENE:

Helicopter shot on the Snake River, Pasco, Washington. We flew the copter in from Seattle, several hundred miles, Tyler inertial mount from Los Angeles. Plans were to get three big green BN diesels and a string of BN green freights allocated from St. Paul and brought into Pasco yard for early a.m. start. Yard superintendent arranged train departure. We got up before dawn, rigged the copter, sent Don and the pilot off for a

beautiful dawn shot over the sandstone formations along the Snake, 40 miles from Pasco. They arrived and hovered. No train—train arrives around noon, light impossible, high winds up and blowing down the gorge—no shot. Someone at the yard didn't read orders, decided to put a few more freight cars on the train.

Several weeks later, back in Pasco, we do the shot—on the one day of the year it rains in the desert. We go ahead anyway, get one of our best scenes, a beautifully choreographed single shot; camera high up, makes 360-degree turn, as freight goes over trestle, follows train along sculpted gorge and river, slow zoom and descent close to train, follow train and zoom in till cab and engineer's face fill frame; one shot, one minute of great film.

SCENE:

Pacific Coast, train point-of-view at sunset along beautiful Oregon beach, great rocks in the surf, red sunset. We rig two cameras to our small truck. Our Arriflex is lashed to truck bumper covered with plastic and gaffered to be waterproof; Don sits with the Eclair in the front seat, door lashed back. We make several runs as sun sets, waves toss up spray on black rocks silhouetted in flaming red sky. We are stuck in the sand as a big wave thunders past our truck, drowning the Arri. Miraculously, only the lens gets wet, as the plastic saves the camera, and we jump out to free the truck. The result is some beautiful point-of-view shots with the sunset flaring through rocks and tossing surf.

SCENE:

High-rail car shots: Our platform is





(LEFT) Filming one of the many "portraits" of railroad personnel in the sprawling Burlington Northern repair yard in Lincoln, Nebraska. (RIGHT) The crew rigs for a shot using the high-rail car, a modified stock automobile with special wheels that permit it to ride on the rails. Camera platform is mounted on the metal front extension of the car. Often this car was used on a single track, with the crew nervously contacting dispatcher controlling trains on the same track.

mounted on metal front extension of auto that rides on the rails. We are on single track along the Snake River nervously making radio contact with dispatcher about invisible trains on right of way, making late afternoon point-of-view shots. Tension mounts; we stop and get out, scurry back in as whirr of rattlesnake alerts us. Rattlers love the dark cool spaces under ties.

SCENE:

Lumbermill, Plum Creek, Montana. We shoot the entire sequence in lumber yard from debarking logs, through mill pond and up to saw mill into finished planks loaded on BN flatcars. Cameras are rigged to fork of giant "Dino" dozer manhandling dozens of logs at once, and onto log going up chain into gang saw. No camera casualties. Later, Michael Small, the composer, writes funky turkey-trot rock to sequence, setting tractors, logs, gang saws into crazy dance.

SCENE:

Classification or "Hump" yard, automated, computerized, "Doc" Milesen, yardmaster, is our hero—soft-spoken westerner, Steve McQueen type, typifies the loner on the railroad system. Intelligent, tough and skilled, warm sense of humor, the cool "Doc" Milesens make the railroad work. We get a dizzy shot of freight cars going over our Arri set on a low tripod between tracks, below hump. Wide-angle 5.7mm Tega creates violent movement and perspective. At dusk and after dusk we film the freight yard at work. The dying sun streams through open boxcar doors (opened at our request), red light silhouettes the girders of auto cars. A trainman is set up walking and signaling with a flare against a giant red sun, shot with very long lens. Cars move down the hump as we dolly alongside flare-man in our rail car, against angry grey clouds of dusk. These beautiful, moody shots will later

end our film in a montage of images played against the original theme song "Hummin' on the Rails".

SCENE:

At Whitefish, Montana freight yard we discover two "hostlers", father and son, both with same job. The youngster's eyes glow when he tells us on camera that he loves to relieve his father on the engine in the morning. "Fuzzy", a yard foreman says he's got everything he always wanted (his rifle, plenty of shells), and he wouldn't trade his job for anything. An old German gardener tells us he loves working on the R.R. He gets his paycheck every week on time—yah!

SCENE:

In the sprawling repair yards near Lincoln, Nebraska, we stop and set up

scenes of portraits. I decide the clutter and literal reality of the yards is not what we want. The welders, painters, fitters and wreckers look medieval in their hoods, carrying great wrenches, welding tools, colors etched into their heavy leather protective clothes. We set up a big scrim in front of a stripped old freight car. The steel makes a subtle textured background of iridescent colors.

I run up and down the lines of workers in the shops, grabbing types—massive welders, funny fat tool shop men, giant ironworkers, long-haired young apprentices. The shops are a melting pot of America. We set our men up in heroic poses, carrying their tools. Sunlight through the big scrim creates a soft chiaroscuro, beautiful, subtle "stu- Continued on Page 848

At dusk, two trains pass each other at a predetermined spot, while cameraman in cherrypicker (at right) records the action on film. The entire production was shot with 16mm Arriflex and Eclair cameras. From the very beginning, it was planned to blow the finished picture up to 35mm for theatrical release, so top quality was an absolute requirement.



THE LIVE-ACTION FILM WORKSHOP AT CALIFORNIA INSTITUTE OF THE ARTS

Beginning cinema students "go ape" at prestigious California Institute of the Arts, while monkeying around to learn their basic film techniques

By KRIS MALKIEWICZ

Nowhere is the old truth of "learning by doing" more evident than in film. With this in mind, and faced with an average of 15 beginning film students each year at the California Institute of the Arts, we introduced the so-called Live Action Production Workshop. This is a basic prerequisite and thought of as comparable to obtaining your first driving license. In our case, it is the license to check-out equipment, originate independent projects and take other more advanced seminars.

The basic objective of this Live Action Workshop is to make sure that our new students learn how to use our equipment and facilities our way. And that they will actually complete film production all the way to and including the 1st Answer Print.

Let me tell you now how I went about it during this past academic year and what sort of conclusions I drew for the future. Here they were: Fifteen students from many states, wanting to be film-makers. My deadline was to have the workshop film shot by Christmas and the 1st Answer Print ready at the beginning of March.

For a 15-minute film this would seem to offer adequate time, but only two days a week were scheduled for this workshop in our course catalog.

The first few weeks went by very fast, being devoted to introducing all the equipment and discussing the story to be chosen for this production. All sync-sound shooting is done at Cal-Arts with Eclair NPR cameras and Nagra IV tape recorders. MOS scenes are shot

with Arriflex S cameras.

I suggested to the group a short story involving several locations and several characters, some of them in gorilla suits. I realized that without properly contracted actors we would have to depend on the workshop members and their friends. And as one man looks like the next one, once you dress him in a gorilla suit, this device was very handy when a character could not make it to location on a given day.

Both at the initial stage of accepting the story and when forming it into a script we followed a very democratic procedure and many, sometimes minute decisions were arrived at by a vote of hands. Lively discussions were, of course, inevitable. I was greatly helped at this stage by my assistant, Scott



(LEFT) High atop a hill in the new community of Valencia, 30 miles north of Los Angeles, is the California Institute of the Arts, a favored project of the late Walt Disney, who dreamed of bringing the various disciplines of artistic expression under a single creative umbrella. (CENTER) Clean modern architectural lines establish the Cal-Arts buildings as sculptural forms. (RIGHT) Instructor Kris Malkiewicz (left), with student Jim Hart and assistant Tom Barron, discussing editing problems over a "flatbed" Moviola.



(LEFT) Curious cameraman tries a gorilla head on "for size". Costumes and props for the student project were partially provided by the Walt Disney Studios. (CENTER) Student Jonathan Steinhoff lines up an Eclair NPR shot of Peter Beckman in a gorilla suit. (RIGHT) Bizarre scenes like this were taken for granted by the jaded Hollywood Boulevard pedestrians, who've seen everything at least once. For this filming exercise, all of the crew functions were changed in rotation, allowing each student to experience all film-making skills.

Garren, whose talent as a discussion leader helped to smooth some roughed-up egos.

Once the basic story was agreed upon, we divided it into seven scenes or short sequences, each to be directed by a different student, shot by another and sound recorded by yet another. It sounds like asking for trouble, and it was—but our aim was to teach a group of people the basics of film-making, so the uniformity of style had to take second place.

The script was also written by several students, with the best parts of each combined into the final version. This version served as a basis for the shooting scripts of particular scenes written by the respective directors.

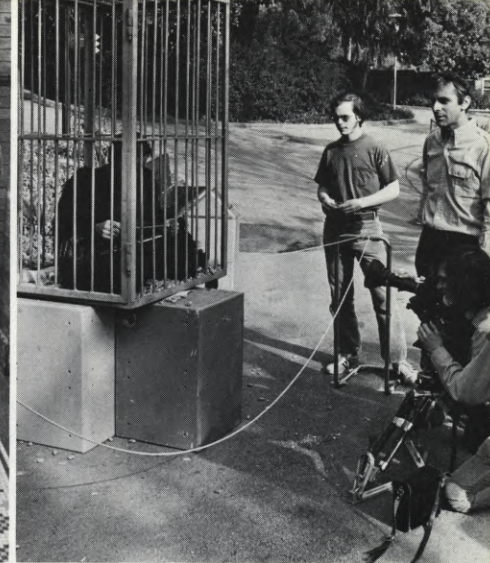
All of the crew functions were changed in rotation. For some locations production assistants had quite a job on their hands—as, for instance, when shooting on Hollywood Boulevard in front of the Chinese Theater or in the Los Angeles Zoo. Costumes and props were partially provided by Disney Studios, our never-drying-out source of help, following the original conception of CAL-ARTS as the idea of Walt Disney realized by the Disney Foundation.

The pre-production weeks were backed up by a series of lectures given once a week by other members of the film faculty. This was a way of introducing these people to new students and also to provide all the needed theoretical background at this stage. For example Alexander Mackendrick, the dean of CAL-ARTS film school and renowned British film director, lectured on story structure and the basics of film grammar. This lecture was supported by some practical exercises in blocking out the action for a television camera and analyzing it on the monitor.

Then the shooting days started and, in their fifth week at the film school, this group of students was facing some of the most common problems of film crews the world over starting the working day at 5 a.m., taking care of expensive equipment, improvising and adapting to various location conditions.

Often other people had to adapt to

(ABOUT THE AUTHOR: *Kris Malkiewicz obtained his MFA in Cinematography at the Polish State Film School in Lodz, Poland. He worked in the film industry in Poland and Canada, and directed documentary films for Irish Television. He taught film techniques in London, England, before becoming one of the founders and faculty members of the Film School at the California Institute of the Arts. Last year he published "CINEMATOGRAPHY—A GUIDE FOR FILM-MAKERS AND FILM TEACHERS".*)



(LEFT) Workshop student Dinah Manoff befriends Limbo, the gorilla, in this scene being filmed in the historic Bradbury Building in downtown Los Angeles. **(RIGHT)** Instructor Malkiewicz checks the action, as student Dan Manson lines up scene of caged gorilla. Most of the action for this project was shot with an Eclair NPR, with crystal motor, while sound was recorded on a crystal-equipped Nagra IV.

us, sometimes with amazement, like this elderly couple who, upon emerging from a dark cocktail lounge into the glaring sun of Hollywood Boulevard, came face to face with a gorilla who, following our story line, was trying to hide in this very entrance. No sooner did these innocent people get over the ape invasion when four zoo attendants rushed by with clubs and nets in mad pursuit.

But Hollywood is Hollywood and certain apparitions are taken for granted. So when our gorilla, King Kong fashion, carried a girl in his arms across the street on a green light, pedestrians did not pay the slightest attention to them (!)

All exteriors were shot on Plus-X negative, all interiors on Double-X. Double-X proved, as always, to be a blessing when we had to depend entirely on available light, such as in the chase sequence down the many flights of

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(ABOVE RIGHT) Like fugitives from Central Casting, three star-struck gorillas sit in the Cal-Arts lounge studying their lines, while in the background an odd couple prepares to join them. **(BELOW)** To avoid traffic problems on Broadway in downtown Los Angeles, this scene for the workshop film, "LIMBO", was shot very early on a Sunday morning. These actors appear to be Shakespearean gorillas.



"YOUNG FRANKENSTEIN"

Continued from Page 805

thought we were getting "timed" prints, when, in reality, everything printed on one light. That's a fairly consistent relationship between cameraman and film lab.

During pre-production, I worked closely with William Tuttle, our makeup creator and designer of monsters, cadavers, mummies and decomposed bodies. In order to give the monster that Dr. Frankenstein creates a different look, Bill Tuttle designed a green make-up. The green color, in black and white, gave the skin a "dead" look; it worked fine. However, my problem was that the film was more sensitive to that green color than to normal flesh tones. The monster always required a lower-intensity key-light to bring him into balance with the other players, or he had to be netted-down by a moving net guided by the key-grip. Since all good monsters have larger than normal frontal lobes, ours was no exception. In order to bring out these protuberances and throw the eyes into mysterious shadows, the monster's key-light was kept very high, often hanging from the ceiling—not too easy to do, but the look was right.

In the script the monster is exposed to a half-million-volt electrical discharge. Peter Boyle, who played the monster, was not about to lie still for that. Bill Tuttle made a fibreglass cast of Peter Boyle's face and shoulders and that's what was used as a realistic dummy. To render the creation of life more weird Bill enclosed within the fibreglass casting some secret ingredients that resembled brains, skull, and teeth and when the self-contained lights within the skull were pulsed by working a dimmer control up and down, the mad-

ness of the creator, Frankenstein, became more visually exciting. Bill Tuttle further contributed to the look of the weirdos that lived in Frankenstein Castle by giving Frau Blucher, the castle warden played by Cloris Leachman, dark brown lip liner and a large removable chin mole. He also created an aged and bearded "blindman" from youthful Gene Hackman. Kenneth Mars became the characterized Inspector Kemp with a wooden arm and an eye-patch with a magnetized monocle! For one sequence of the film, as Dr. Frankenstein and his beautiful, blonde, buxom assistant, Inga (played by Teri Garr), discover a secret passageway, they pass through an anteroom of the secret laboratory that displays four skulls. These skulls are marked: "One Year Dead", "Six Months Dead", "Two Months Dead" and "Freshly Dead". Bill Tuttle carefully designed out of plaster, fibreglass, wax, false teeth and monkey hair, replicas of all the above in realistic stages of decay—all but one; the one marked "Freshly Dead" was our English comic, Marty Feldman, who most humorously played Igor, the assistant with the changeable and vanishing "hump-back".

The castle sets of "YOUNG DR. FRANKENSTEIN" were something else again. Dale Hennesy, the Production Designer, created an almost unbelievable complex of castle courtyards, reception hall, winding open spiral staircases, secret passageways, bedrooms with secret rotating panels and a laboratory with an operating platform that was hauled through the roof by steel chains onto an exquisite exterior roof set surrounded by a stormy, cloudy sky backdrop. The task for Dale Hennesy was a labor of love, and four hundred thousand dollars later there were the most magnificent thirty-five-foot-high sets, cobbled streets, and assembled rooms of a type

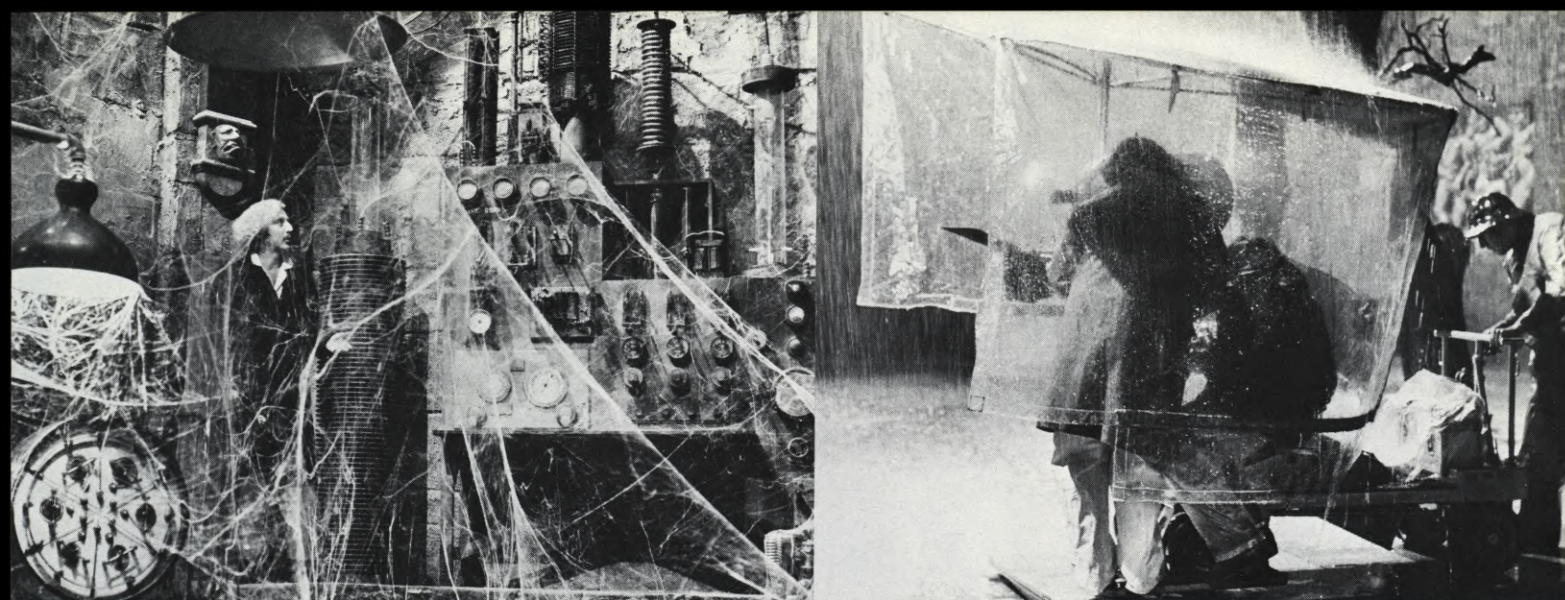
that would make any cinematographer's mouth water. Dale had these rooms decorated in varying degrees of grey stone, which I then could reproduce in any tone, depending upon the amount of light on them and controlled by the increase in contrast due to the type of processing used. Dale Hennesy's contribution is major toward the look of the picture.

It's difficult to tell where to begin in relating the contributions of our special effects team, headed by Henry Millar, Jr., his father, Hal Millar, and Jack Monroe. These men gave life to the night with their low-hanging fog made with the help of a ton-and-a-half of dry ice. They created the eerie opening mood as the camera winds a circuitous route through archways and courtyard in a deluge of rain accentuated by thunderous crashes and blazing flashes of lightning. Since the castle is devoid of electricity, except for the laboratory, all the rooms are lighted by oversized fireplaces, huge candelabras and wall torches. All had to be planned in advance, as the wall torches and fireplaces were piped for propane gas and then plastered up to look like two-foot-thick stonework. The wall torches had flame spreaders which added just the right amount of smoke for realism. The fireplaces had concrete logs. Real logs cannot be used, since they present a fire hazard and they can't be turned on and off readily. There are various means of creating the firelight effect that bounces on the walls and the people in a room whose sole source of light is the fireplace. I chose to use silk strips of fabric fluttering in front of two or more lamps placed out of camera range. When these lamps were alternately brightened and darkened by dimmer control the firelight effect was quite realistic.

To create a source of light simulating

(LEFT) Another of makeup artist William Tuttle's creations. Here is the mummified remains of Beaufort Frankenstein, the instigator of this film. It was Beaufort's will that left the old laboratory and "book of instructions" to the new young Dr. Frankenstein. (RIGHT) Jack Monroe and Henry Millar, Jr., special effects team, put some finishing touches on the remains of Beaufort Frankenstein, with a blow torch. The will, leaving the estate to the new Dr. Frankenstein is in the metal box which will be placed in the skeletal hands of the corpse.





(LEFT) The special effects team had a field day in spinning spider webs throughout the long-deserted secret laboratory. Here we see the new and young Dr. Frankenstein, played by Gene Wilder, discovering the ancient equipment left in the inheritance by his grandfather. (RIGHT) Protection for both the camera and the camera crew, is afforded by this plastic rain housing which is attached to the camera gear head so that it will pan and tilt with the camera. It is very light in weight so as not to interfere with the camera operation. This is an opening scene in the Frankenstein Castle courtyard recreated at 20th Century-Fox Studios.

that coming from a solitary candle, we made a dummy candle out of aluminum pipe. There was a hollowed out into which part of a real wax candle was placed and lighted; just below within an open slot of the pipe a 100-watt projection bulb was concealed and an electric wire was run up the sleeve and down the pant leg of the actor to a dimmer control. The actor's job, besides acting, was to keep the open slot of the enclosed bulb from being seen by the camera. This was a bit tricky when the candle was used to light the face. Then, as the actor passed the camera, the candle had to be rotated so that now the walls would be illuminated. The trick candle was a touchy affair that required a few extra takes. But, the automatic dart-thrower devised by Henry Millar, Jr. worked perfectly on the first take. It was a blow-pipe arrangement fired electromagnetically in any order for a sequence in which Dr. Frankenstein throws, in rapid succession, five bull's eyes as he attempts to impress Inspector Kemp.

The electrical wizardry really impressed me. Upon researching the picture it was learned that some of the original "FRANKENSTEIN" electrical laboratory equipment was still stored in the garage of the man who designed it for the film made in 1931. This man, Mr. Ken Strickfaden, was on hand during all the laboratory filming to add his touch to the already fantastic array of bubbling vats and retorts and plastic tubes pumping blood solutions.

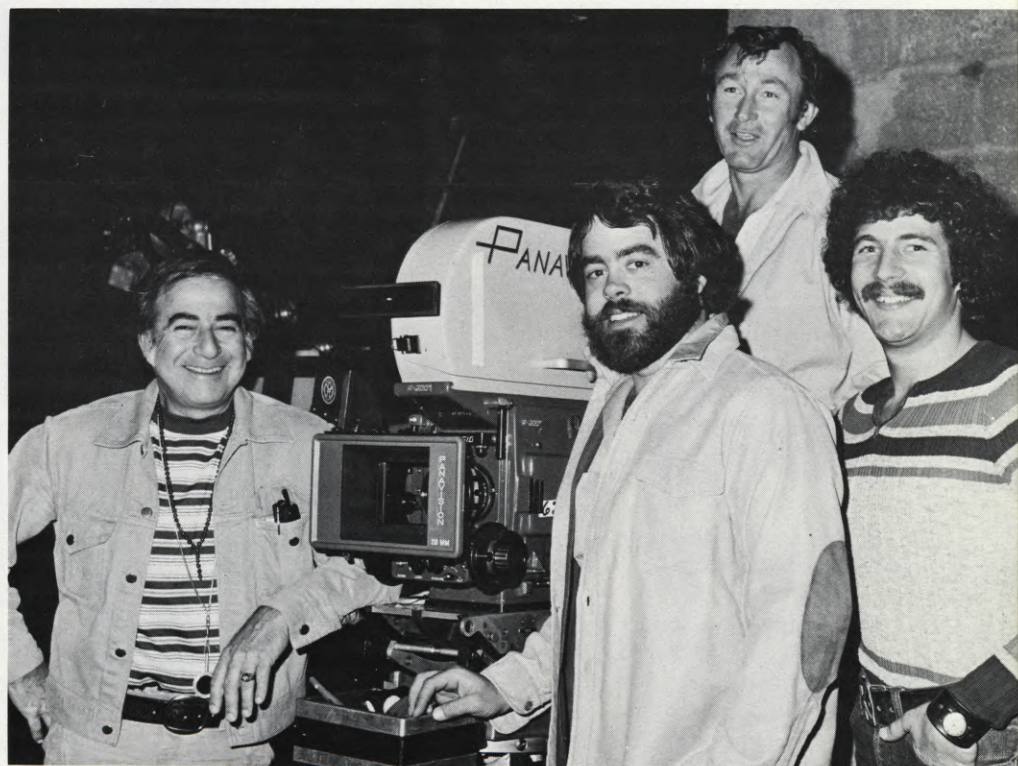
He also built new electrical devices specially for "YOUNG FRANKENSTEIN". The laboratory was ablaze at times with "Jacob's Ladders"; these are spark-gaps that climb two V-shaped electrodes until the spark finally escapes

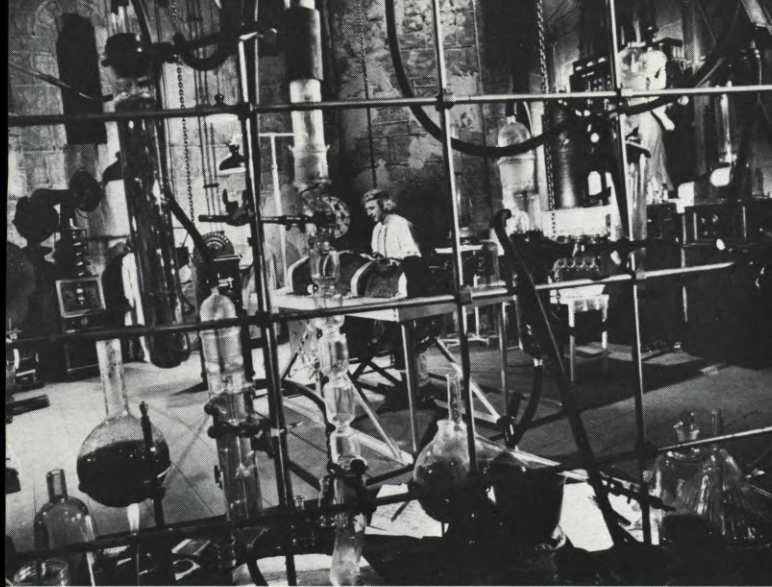
at the top in a six-inch span of lightning. The "Melodic Melinda", a humorously named gadget, created arcs that jumped from contact to contact in prescribed rhythm, from waltz time to jive tempos! Radial lightning devices shot their arcs in giant six-foot circles, creating thunderous crashes on the set. But, the climax of this electric "circus" occurred when Dr. Frankenstein was hoisted by his assistants, Inga and Igor, by chains through the laboratory roof into the face of a tremendous lightning and thunder storm. For those who may

have forgotten, the theory that brings life to the dead components that the good Dr. Frankenstein puts together, is the ultimate channeling of lightning into the dead body.

This effect was created on the elevated castle roof set; the "monster's body" and Dr. Frankenstein were raised from below and the operating platform was stopped directly beneath the terminal of a huge electrode. On, "Action", Dr. Frankenstein lifted his hands heavenward, calling upon the tremendous power of nature to bring life to his

The laughing-and-scratching camera crew. The operator was continually cautioned not to laugh during a take, lest he inadvertently shake the camera. (Left to Right) Director of Photography Gerald Hirschfeld, ASC, First Assistant Eric Andersen, Operator Tim Vanik, and Second Assistant Phil Schwartz. How else can grown men have so much fun?





(LEFT) Here Dr. Frankenstein gives a last minute check to his "creation", before being hoisted through the roof of his laboratory by his able assistants, Igna and Igor. Some of this awesome array of lab equipment was used in the original "Frankenstein" made in 1931. Mel Brooks, the director, added much more than a new "look" to this film. (RIGHT) The Monster, Peter Boyle, finally revolts against his director, Mel Brooks, on right, and his cameraman, Jerry Hirschfeld, center; he was tired of being told, "Do this—do that" and "Put your chin down—don't turn too far!"

creation. The special effects team, on cue, started throwing switches and an arc started to jump a mere two feet away from Gene Wilder, playing Dr. Frankenstein. It started leaping from the electrode to the body of the monster, growing in power and size until one-half-million volts were crackling through the air! Gene Wilder was safe as long as the distance from his body to the electrode was greater than that from the monster's body to the electrode. Needless to say, Mr. Wilder remained cool, while the monster began to smoulder, another effect created by secreting smoke machines under the operating table and releasing the smoke slowly through the inert body.

To complete our gamut of special effects we had to revert to old-fashioned process filming, the technique of projecting a moving background on a screen outside our Amtrack mock-up train and the Transylvanian train. This was to be the transition used to get young Dr. Frankenstein from his medical class in the United States to his castle inheritance in the remote country of Transylvania. Mel Brooks selected a modern night-travel shot to be used outside the modern train windows, but, nowhere could he find a stock shot of the stark, black, leafless trees and low-hanging fog, so indigenous to the eerie Transylvanian countryside, to be used outside of the Transylvania train mock-up. So, we made our own process plate. You may well ask how one does this on a sound stage? Here's how:

For some of our scenes in which the townspeople were hunting down the monster, Dale Hennesy designed a forest set that would chill the blood of a modern-day Dracula. It was about forty feet in depth and about one hundred

feet long; we ran a dolly track parallel to it and made-believe we were a train. But, in order to give the illusion of speed, the camera was run at eight frames per second and the dolly grip ran as fast as he could. We ended up with an effective 30 miles per hour process plate, but it was only about twelve feet in length! This would last only eight seconds when projected at 24 frames per second—hardly enough for a minute-

and-a-half scene. The problem was solved by putting a large tree trunk at the beginning of the dolly track and another at the end of the track, close to the lens. All the editor had to do was to cut exactly when the frame was filled by the tree trunk at the end of the run and spliced on another print of the same scene using the tree trunk at the beginning of the run. By repeating this

Continued on Page 844

Director Mel Brooks looks through the viewfinder at the ghoulish remains of the ancient deceased Frankenstein, while Cinematographer Hirschfeld (far Right) awaits approval of the camera angle. Although "YOUNG FRANKENSTEIN" is all in fun, from the audience standpoint, it represented an enormous technical challenge to camera, sound, makeup and special effects personnel.

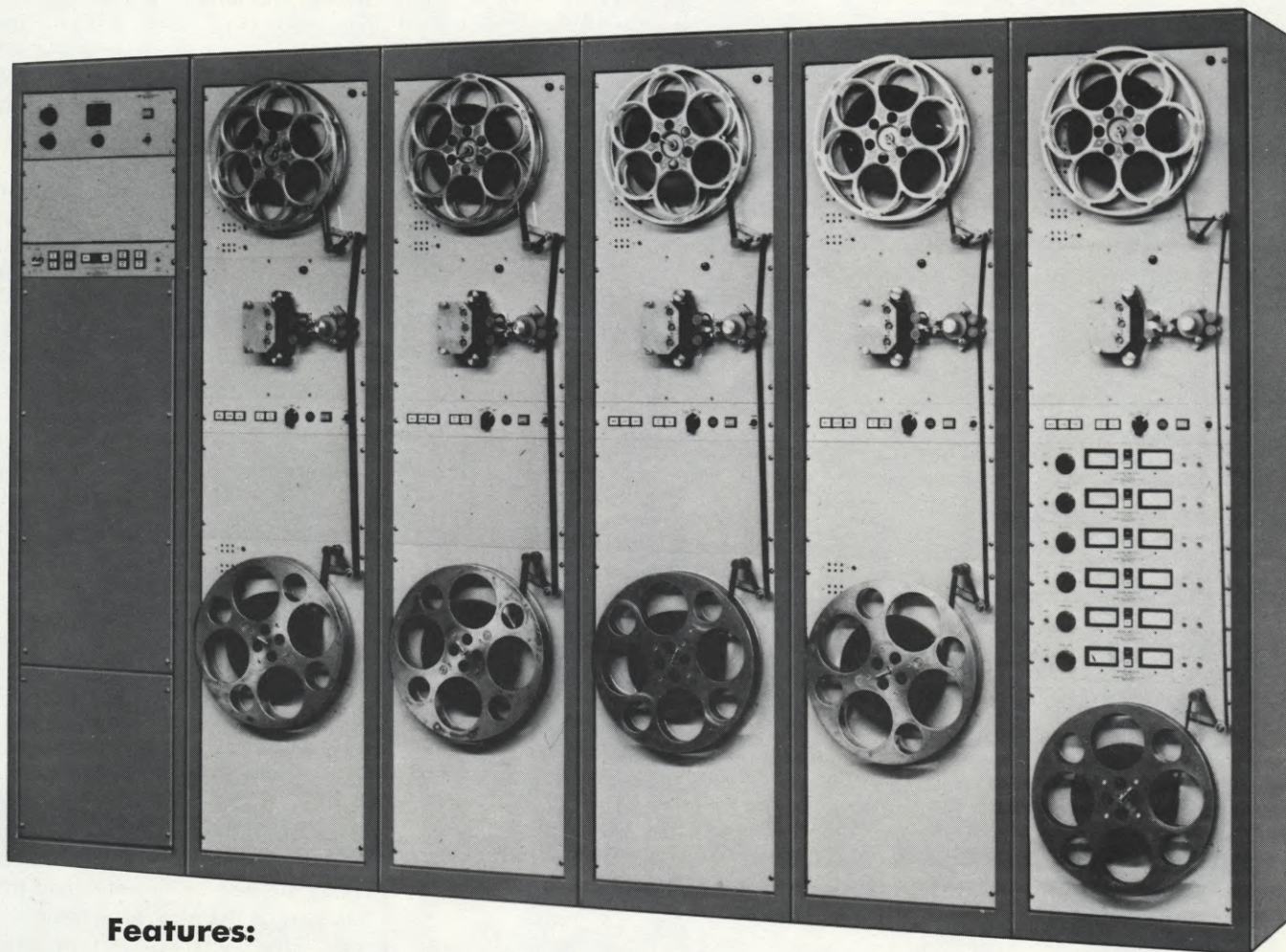


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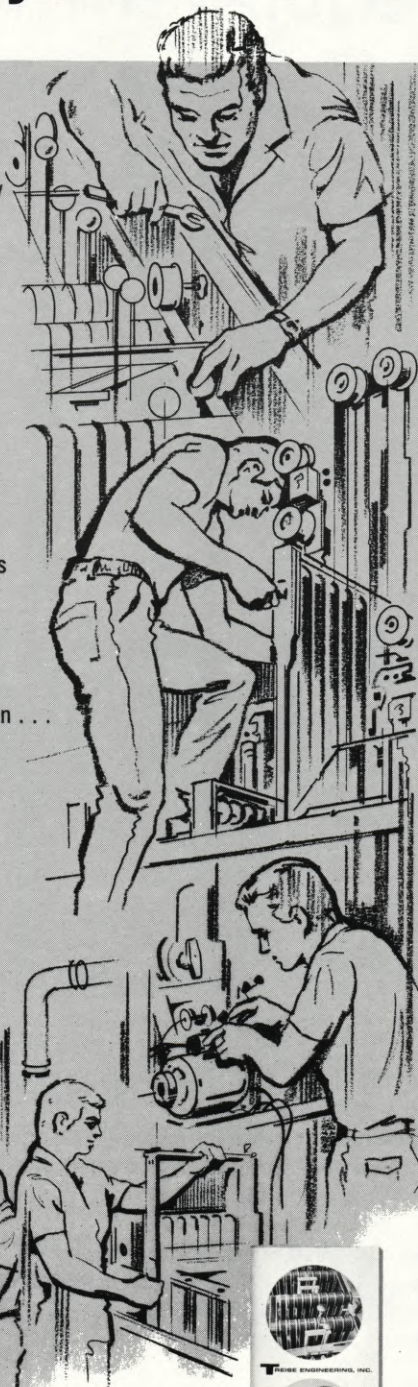
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"YOUNG FRANKENSTEIN"

Continued from Page 842

procedure, or by making a "loop" of the negative, we created 200 feet of Transylvanian forest going past at 30 m.p.h. and lasting a good two minutes on the process screen.

Throughout most of the first half of the film the script called for bright flashes of lightning. There are several ways of making studio "lightning". The one my gaffer, Jim Planette, and I decided upon because of the degree of control and intensity needed for our extremely large sets, was to use a conventional arc and reverse the polarity of the power to the carbons. When this is done, the arc will not burn properly but will continue to flash and sputter as long as the lamp operator forces the carbons together. This created a very realistic lightning effect and I let the lightning "burn up" the negative as part of the stylistic approach to satire. The director loved it.

We were making a comedy and, since the settings for this comedy were to be realistic and moody, my main problem was to maintain a low-key melodramatic visual look, but to be certain that all the comedic nuances of expression would not be lost in spooky lighting. This was no easy task and no single approach could solve the problem. At times, it was a hand-held "inky" lamp that bounced in just enough "fill light" to make the eyes visible. Had I used a normal fill light overall the mood of the scene would have been destroyed. Another time, the firelight effect was heightened to make the players that much more visible; or lightning was cued to make the humor of the scene stand out. The important point I had to remember was not to lose the so-called "joke". Even my operator had to alter his normal framing of a scene so that the "joke" was not lost to some far corner of the frame. Notwithstanding normal problems, our sound department, headed by Gino Cantamesa, did a fantastic job in not losing "jokes" while arcs all around were clicking out lightning, or the laboratory crackled with noises not wanted on the sound track.

As I recount the various special effects, the assortment of make-up creations, all the lighting effects, and my approach to filming "YOUNG FRANKENSTEIN" I find myself anxious to see the end result. A general rule-of-thumb in film land is that it takes approximately nine months for the average-length film to be ready for exhibition, working from the start of photography. I wait expectantly for our "baby" to be born.

ECOSPHERE

Continued from Page 799

down, side to side, and projected it in the model. We also studied the effects of dissolves and cuts. Cuts were to be used sparingly, because it takes an audience longer to become oriented when their entire environment changes. Consequently, each scene lasts longer than in a comparable standard movie. Bob developed a full run of tests to measure possibilities and limitations.

GRAHAM: We found that the camera should usually stay still—let the subjects move. Some trucking or zooming was OK, but panning was bad. A big factor was the multiple images—less is more. When you shoot four trees, for example, you end up with eight times as many. Also, over-all patterns were more effective than single points of interest.

SHORT: Right, I shot some experimental footage with a lot of movement, and it drove us right out of the model.

QUESTION: Were you able to test everything in the model before and during production?

GRAHAM: Not at all. It just gave us an idea of what to expect. Animation was designed with the triangular screen and reflections in mind. Each scene, as it was designed, was tested by placing two mirrors at right angles on the flat art. However, even this gave something less than half the effect that would appear in Ecosphere.

SHORT: In every step we had to imagine the final effect. All through designing, shooting, editing, and post production, we could only see the flat image that represented one-eighth of the final image. Like PGE, we weren't totally sure until we saw the film in Ecosphere itself.

QUESTION: With that handicap plus the fact that much of the film was nature shots, your shooting ratio must have been sky high.

MAISEL: No—it was about four to one. We really lucked out, due to the people involved. Jay Connor, our veteran cameraman from Showsphere was excellent. He and I went to an island in the Columbia River to get footage of whistling swans, an almost extinct species. The place was called Bachelor Island, and we met a forest ranger named Matt Dillon who introduced us to the Robert Zimmerman family, owners of the island. Everybody pitched in to help

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us—it was amazing. As we wanted to keep the camera still, we had to herd the animals past it. Imagine herding wild swans! I can still see Mrs. Zimmerman stomping through knee-deep mud, over and over, to get the shot. Ranger Dillon and the Zimmerman's son knew every inch of the island and the habits of the animals on it. We were taken to the right places at the right times and nature performed on cue. We had manpower rather than footage. The only easy shots were of Mrs. Zimmerman's pet buffalo.

QUESTION: You filmed all of this mud-flat rambling on 70mm?

MAISEL: The first time out we used a 70mm Todd-AO 8-perf camera with a special 170-degree lens. It was just too bulky for the nature shooting. Then we realized that the actual size of the triangular print image needed for Ecosphere was only slightly larger on the 70mm frame than the size of full-frame 35mm—so we shot on 35mm and were able to print on 70mm 8-perf with only a 10 percent blow-up.

QUESTION: You had to picture each shot as a triangle?

MAISEL: Right. For all of our live shooting we used a view-finder masked to form a triangle to frame the shot. We always shot full-frame, but could only use a triangular portion for release prints.

QUESTION: What percent of the movie was animated?

GRAHAM: About 60 percent. We sent our designs to Les Novros and his animation crew at Showsphere. They made the refinements in my designs that made them come off so well. An example is the scene inside the nuclear reactor as it heats up and produces steam—it is probably the most complex and expensive animated scene in motion picture history.

QUESTION: I understand that certain new equipment was devised for projecting in Ecosphere.

SHORT: The final film had to be on 70mm 8-perf. The unusual optics and distance factors dictated this format. The parameters were worked out mathematically by Colin Cantwell of Showsphere, the firm which developed the special 8-perf projector. It incorporates a Butler movement and automatic re-wind with push-button remote control, so that the ushers can run the film, and

a projectionist is not necessary. I might add that transferring the sound track was the big problem. Although the film carries six mag tracks, 70mm 8-perf goes through the machine at a different speed than the original 35mm mag track. Our Tom Bullock and the Todd-AO engineers modified their equipment to do the job. It worked out.

QUESTION: Speaking of the sound track, who gets credit for the music? It was fabulous.

MAISEL: I wrote the script as an oratorio and we used Parasound, Inc., of San Francisco. Paul Beaver and Bernie Krause composed and conducted the music. They're among the best electronics musicians in the business. They really caught the feeling we wanted and produced a dynamic score.

So now we have Ecosphere—a theater and movie created and produced without the benefit of any type of dry run. Perhaps it will be viewed by many as only another innovation. However, its ability to place the audience entirely within the action of the movie and the excellence of the effect bring to reality audience involvement that could only be hinted at with 3-D, Cinerama, full-circle screens and IMAX systems. ■

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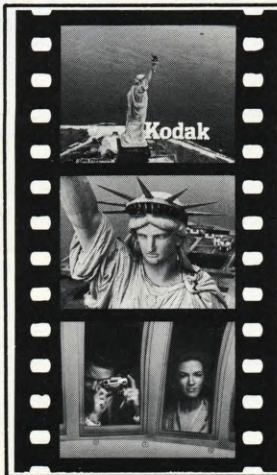
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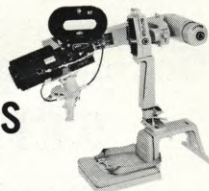
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"PORTRAIT OF A RAILROAD"

Continued from Page 837

dio" lighting.

We film some fifty types, all different, all epic-looking, men out of a contemporary myth. These portraits, played against abstract shots of moving wheels, lights, computer signals, crossing signals, become the opening of the film—images and music, an ambiguous, startling beginning.

SCENE:

In Chicago yard a sweeping bank of computerized central traffic control equipment, red-amber and green grid of lights and track, a myriad of switches and signals controlling dozens of trains and signal blocks on the busy main line. The room is ugly, cluttered, paint peeling. I decide to put the 30-foot instrument panel in limbo, surround it with white photographer's background paper. We haul a truckload of lights in from the city and just barely get a reading. Shot with the 5.7mm Tega wide-angle, the room becomes a set from a science-fiction movie, gleaming with advanced technology. The dispatcher calmly endures our filming, relaxed while he controls the rush hour traffic. A very cool man.

*"... Oh I've been to leafy valleys
And I rode through howlin' storms,
And I smelled the air on great and
piney mountains..."*

The railroad is in our blood. The big diesels live, great animals of the rails. We view rushes each night in motel rooms from the Pacific Coast to Chicago.

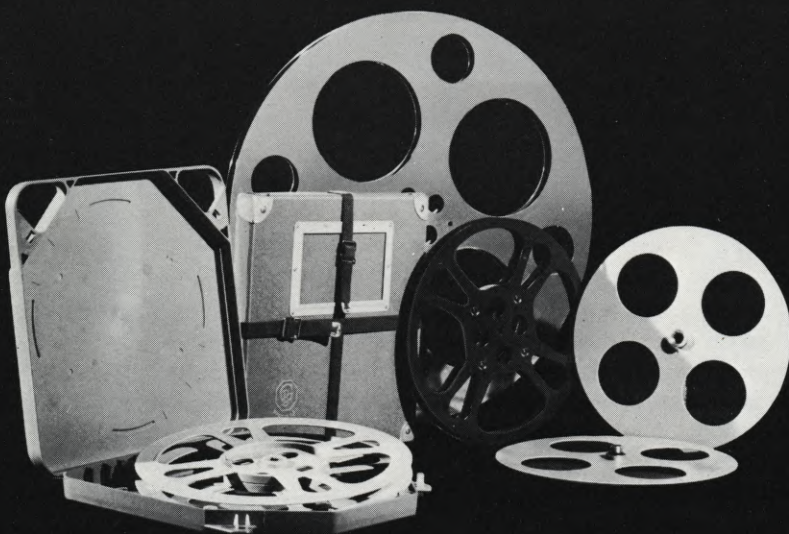
A few problems, an occasional scratch on the negative or a bit of hair, only one reshoot for ruined film. We move with the railroad, freely interpreting the treatment, drenching ourselves in the gut reality of diesel railroading. Our shots are planned, carefully set up, rigged, and lit.

We do very little hand-held. Don Guy, the cameraman, works methodically; I sit impatiently for hours, waiting, planning, while the meticulous setups and rigging go on. The careful setups pay off in our finished film. Our scenes are fluid; the railroad is movement, carefully planned angles, cherrypicker and crab dolly rises and moves, sweeping elegant helicopter shots, a choreography of trains and men moving through limitless, contrasting landscapes. The footage expresses an idea, a concept of time and motion, of time and massive machinery delicately posed on high tensile steel rails, counterpointed against the mighty land, of computers and

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*"... but I'm dreamin' of a still more distant shore
Hummin', hummin' on the rails,
mmm m m mm mm mmm"*

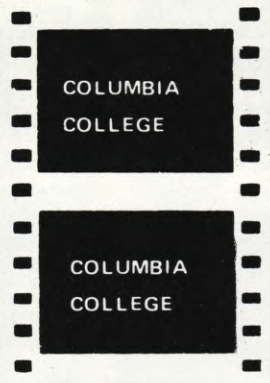
Back in New York I see dozens of editors, look at many industrial films. We finally select Kathy Wenning, an assistant of the great Dede Allen. We have about 40,000 feet of 16mm and many hours of sound effects, sync interviews and wild interviews. Kathy and assistant Paula Schiller begin a meticulous sorting and coding.

Our budget calls for an original score. We choose Michael Small, a gifted feature composer, "KLUTE" etc. He has ideas for contemporary country folk score, with experimental instrumentation. I believe film scores are often neglected or are simply accompaniment. I want the music to play its own role, counterpoint to the images; to create moods and emotions, to achieve a synthesis, to lift and soar with the film. Michael goes off and works out theme and melodic ideas while we spend endless weeks editing. We are making the film, the original treatment is a point of departure. The film will express the theme and concept of the treatment in a new way, growing out of the footage.

I huddle with Francis Thompson and Byron constantly, checking ideas, words, scenes. We rough-cut many times gradually evolving the form of our film, discarding, discarding, changing and trying ideas. We have rough times and good times. Francis looks at and critiques our efforts.

Michael Small brings his music, I love the themes and ideas. He goes to write the complete score. We have recording sessions on eight-track Scully equipment. Michael brings in the best musicians in New York and we record them. Later we have a session with violinists and French horn players from the New York Philharmonic. Al Marchin at Aura Sound is a master on the console, blending the parts. Al Dana, our vocalist, makes a beautiful interpretation of the two songs: "This Gentle Land", and "Hummin' On the Rails", written by Michael. We go to Searsound studio and Michael creates more music on the synthesizer. I hear it all together and congratulate Michael on an exceptional score.

We are now eight months on the project from my first meetings and scouting trip. The pieces are all there. John Savage works out a minimal narration, understated and simple. We go to Reeves and record against picture. As it



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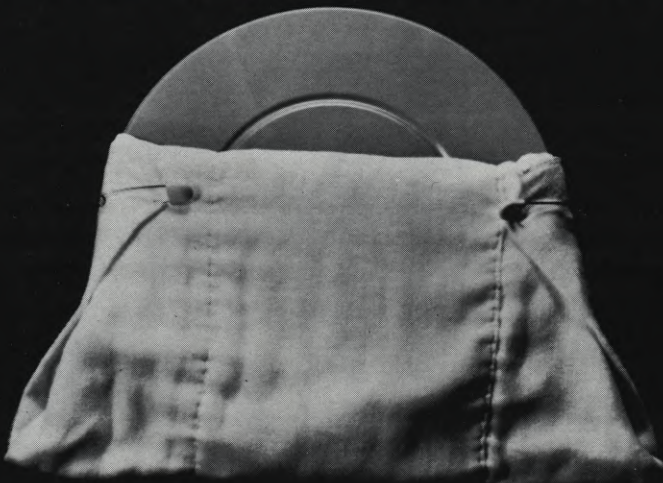


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turns out, this is only the first of several narrators. We want a gentle, honest voice, fresh and unspoiled. We get one later in the final short version of the film, Gerald Matthews.

Final mixing is done at Reeves by the great Vorisek. He operates his console with the skill and quiet professionalism of a master, punching pieces in and out in a tireless quest for perfection.

Rough-cut and mix are interlocked for Al Rung, the client, at Movielab theatre. He is pleased, but we go back to work on his comments. The version now is long, too heavy on sales. We plan this hard sell version for BN salesmen. We go back and reedit and remove commercialism and weak material. Final version is 20 minutes, non-commercial and ready for blowup to 35mm. By now everyone is exhausted, I've been on the job almost a year. Must leave for around the world shooting. Alexander "Sasha" Hammid, Francis Thompson's great filmmaker associate, takes over the supervision of the blowup. I have no doubts as to his eye for quality and color and leave in quiet mind.

*"Hummin', hummin' on the rails,
On the shiny shiny trails of
tomorrow,
In front of me my destiny,
In back of me, how distant is my
sorrow."*

EPILOGUE:

I saw "PORTRAIT OF A RAILROAD" on the big screen at Radio City Music Hall a while ago. The 35mm print is even better than the 16. Al Rung, the client, told me he has sixty-five 35mm prints in circulation playing across the country with "SERPICO", "MEAN STREETS", and "THE WAY WE WERE". Al Rung is doing a fantastic job of distributing and promoting the film for Burlington Northern.

Aimed at countering bad publicity and public misunderstanding of modern freight railroading, the film is planned to trigger a massive sequence of distribution. Starting with nationwide circulation in theatres by Association Sterling, leading distributor of sponsored films, it is supported by intensive press screenings in local cities and trade and national magazine editorial coverage.

Robert Finehout, Association-Sterling marketing V.P. says "PORTRAIT" will be among the most seen and acclaimed short subjects. Exhibitors have called and written to praise it, even keeping the short running when the feature changes. It receives applause everywhere it's shown. The response is unprecedented."

The film has been entered in all of

the leading film festivals, and its awards so far include: First Prize at the Public Relations Society of America Festival, CINE Golden Eagle Award, First of Category and Chairman's Special Award at the Chicago Industrial Film Festival. Burlington Northern is currently presenting it at EXPO '74 in Spokane, Washington. It will be submitted for Academy Award consideration in Fall, 1974.

Writeups on the film have appeared in *Time*, *The Journal of Commerce*, *Business Screen* and local newspapers and trade magazines.

Following theatrical release, the film will be released for television, non-commercial, and educational use. I know how important the follow-through is to the success of an industrial film. Few ever make it to the big screen.

I know "PORTRAIT" will win many more awards. It is an honest film. It is my first major film as writer-director, and I cannot thank Francis Thompson, Sasha, and Byron enough for their hours of patience and consultation. They stand for integrity in our business and a ceaseless search for esthetic excellence. It's a hard battle for all of us, but it's the only one worth fighting. ■

*Words and Music © Michael Small for "PORTRAIT OF A RAILROAD"

FINAL CREDITS

a Burlington Northern presentation

writer-director-producer
Harvey Lloyd

photography
Don Guy

editor
Katherine Wenning

music
Michael Small

narration written by
John H. Savage

narrator
Gerald Matthews

assistant editor
Paula Schiller

unit manager
Dave Burke

sound
Michael Becker

assistant cameramen
Ziemowit Maria Kozbial
Tim Housel

additional photography
Eliot Noyes

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FREDDIE YOUNG TALKS ABOUT "THE TAMARIND SEED"

Continued from Page 821

well, but we didn't feel that we should go on shooting with it until we were absolutely sure—so we sent it back to Hollywood. As a result, we haven't had all of the use of it that we had hoped for, but now we've got it back with us and I'm sure it's going to be very valuable for the shooting we've got to do here in Paris—especially for some of the tight interiors and car shots we've got to make. Its smallness and light weight are great assets. For the car shots where we're using rigs extending outward, when you get the weight of the camera plus the weight of the operator, it really sort of pulls the car down on its springs on one side. The Panaflex should be a great improvement in that respect, and you also have the advantage of its viewfinder that you can sort of look through from any angle. I'm very glad we've got it back with us again now. It was very nice of Bob Gottschalk to grant us the privilege of having a go with it.

QUESTION: Speaking of those car shots you mentioned, it wasn't so very long ago that almost all shots like that were filmed in the studio against a process screen. What are the particular advantages (or disadvantages) you find in doing them for real this way?

YOUNG: Well, the advantages are tremendous. Process is always a headache, whether you're using back-projection or front-projection. You've got the depth of field problem. You've got all the bother of shooting plates and coming back to the studio and rigging up and all that sort of thing. There is the alternative of doing it with a matte, but you'd probably have to wait a week or more before you could see the composite scenes on the screen. Shooting the way we do now, the scenes come back with the normal rushes. If you're shooting in daylight, you've probably got a stop of F/8 or F/11, so you've got a nice depth of field. The only problem is for the director to be able to see what he's getting. Blake sits on the camera car with headphones on and he can sort of see the actors and hear what they're saying and that works out quite well. The only danger is in crowded streets, with the camera operator hanging off the side of the car. Some idiot might drive by too close and scrape him off. Otherwise, I'm all for doing such shots on the job, instead of waiting to get back to the studio and using process.

Continued on Page 854.

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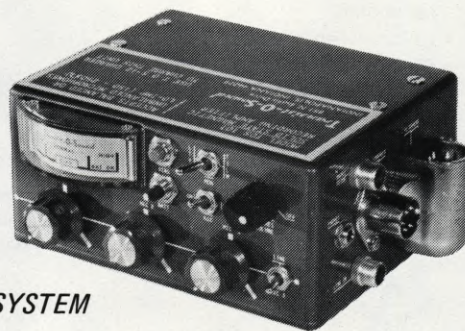
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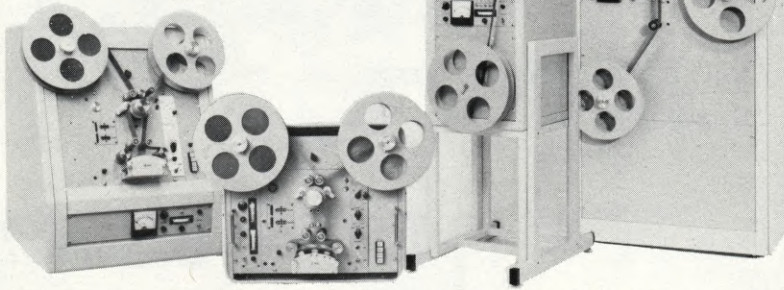
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FREDDIE YOUNG TALKS

Continued from Page 852

It's never quite as good as the real thing.

QUESTION: Then, it's been no wrenching thing for you to move out of the studio and do such scenes in actual locations?

YOUNG: No, it hasn't at all. But I still feel that it will be a terrible shame if they keep on closing studios down, so that you won't have the studio available for that certain kind of picture that can be made much better in the studio. There definitely are pictures that can be made better in the studio—but when a studio is gone, it's gone—like the old MGM studio, which is now a big refrigeration plant. It just breaks my heart to think of it. All the beautiful thought and design that went into that studio, and now it's a refrigeration plant. It's just ghastly. The studio is a kind of base where you've got a pool of highly-trained technicians. Of course, there are obvious advantages to having a free-lance crew on location. You get a wonderful team spirit with a free-lance bunch of boys on location. It's rather like television, except that the television people travel all over the world making films, but they still keep their basic studios—while we're losing ours. I think there will come a day when this will be regretted. I'm sure, in time to come, that they will be building more studios.

QUESTION: I know from past conversations with you, that you favor Brute arcs for certain lighting situations, but I haven't yet seen a Brute since I've been here with you. Aren't you using them at all?

YOUNG: Yes, I am—when they're needed. In Barbados I had a 1000-amp generator and two Brutes. Obviously, out on the beach, against that glaring light, you really needed a Brute. It's the only possible filler there is for such conditions. I always have the two Brutes, and I've got them here. I use them for closeups and occasionally, when shooting daylight interiors, I can pump one or two Brutes through the windows—which is a great help. It's not supposed to represent direct sunlight, but rather a sort of filler light that comes in from the outside. Those little quartz lights we've got are very useful for closeups and small rooms, but once you get outside they're not very much use to you.

QUESTION: The last time I was with you on location was in Ireland for



"RYAN'S DAUGHTER" and you were shooting 70mm. Having been sort of spoiled by all of those wonderful 70mm pictures you've shot, does it seem like a bit of retrenchment to come back to 35mm?

YOUNG: No, I like 35mm. I'm all for 35mm. I don't think 70mm is of very much good, except for a very special type of epic picture. The camera is very weighty and those lenses have no depth of field at all. I used 70mm on "LAWRENCE OF ARABIA" and it was very good for that picture, but we shot "DOCTOR ZHIVAGO" in 35mm and it was blown up to a 70mm negative afterwards—and I really defy anyone to tell the difference. I'm all for 35mm. I think it's the right sort of size and it's stood up through the years. It's all a matter of economics, really. I argued the point vehemently with David Lean before we shot "RYAN'S DAUGHTER". He wanted 70mm and he got 70mm, but I feel we could have done just as good a job with 35mm. David was adamant on the subject. He felt he would be getting something special with 70mm in Ireland. Maybe he was right—I don't know. Anyway, I'm not really sold on 70mm for the average picture. I hate to sort of pour cold water and I'm sure Bob Gottschalk still has some 70mm cameras and lenses available that he'd like to see used, but I think that 70mm is just dying out. My common sense tells me that it's not really necessary.

QUESTION: I'm told the shooting schedule for "TAMARIND SEED" is ten weeks. That's rather a short schedule compared to most of the films you work on, isn't it?

YOUNG: People are inclined to think that about me, because of the David Lean pictures with their long shooting schedules. The fact is that between David Lean pictures I've done many others with short schedules. "LUTHER" was made in five-and-a-half weeks, and I recently did a picture with Sidney Lumet in six weeks. There's nothing untoward about my doing a quick picture. In fact, I rather like it; you get a bit bored being on a picture too long. I've had to explain to people why it took so long to shoot "LAWRENCE OF ARABIA". I said "Well, you have to imagine the effort of getting 1,000 camels into position." Working with a large number of Bedouins, it's necessary to set up a camp in the desert. You're there for six months and it's a major operation to get each shot; whereas, on a small picture, you've

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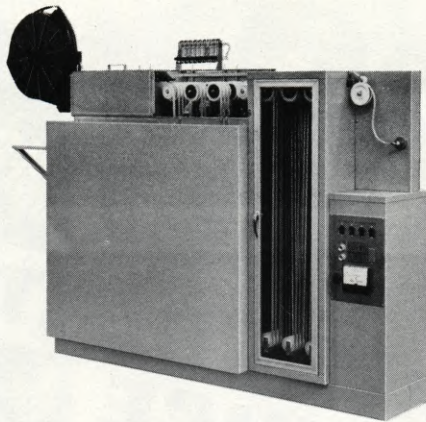
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probably got two actors talking to each other and you can knock off five minutes in a morning. It's rather different from getting the sort of thing you have to get on an epic picture shooting abroad. In "LAWRENCE" we had 1,000 camels and 750 horsemen—and this went on for month after month.

QUESTION: What is your attitude toward the use of multiple cameras in feature film production?

YOUNG: Years ago, when talking pictures first came in, we were shooting with five cameras inside of booths and we'd shoot ten minutes a day—so there's nothing really new about television tactics; it's all been done before in films. If you're doing a musical, you often use several cameras, but on a really serious picture where it's important to get the utmost out of the angle and the actor's performance, the single viewpoint is the thing. Now, when it comes down to financial considerations, they may say: "Well, if we do this scene with two actors, using two cameras, we can shoot ten minutes a day." That's quite reasonable, but you get a certain product when you do it that way, and another sort of product when you work the other way.

QUESTION: It has often been said that you can light optimally for only one angle at a time. How do you feel about that?

YOUNG: No, I wouldn't go along with that too much. In the old days, in order to have an actress look her best, she almost didn't dare move. She stayed in one position, rather like posing for a still photograph. I think those days are gone—the heavy diffusion and using a woman of 40 to play a girl of 18. Of course, everyone still has to do his best to make the star look attractive but, on the other hand, very often the star is not meant to look attractive; she is meant to look weather-beaten. A lot of actresses today purposely muss their hair up and they go out and have a jagged night on the night before shooting, because that's the way they're meant to look on the screen the next day. They go for realism. It's not like in the heyday of Hollywood when everybody had their hair done so very, very meticulously before each shot—not a hair out of place. That sort of thing looks rather ridiculous when you see it today. It's a different era now, and you've got to go along with it. That's why I can't agree with the statement that you can light 100% from only one position. It doesn't apply any more. ■

"THE TAMARIND SEED"

Continued from Page 829

sort of rapport about which way we thought things should go," he tells me. "On this picture, whenever I've found a possible location, I've always brought Freddie along as soon as possible—either with Blake or directly after I've been there with Blake—to get his approval. It's obviously not wise to pick a place that's going to cause Freddie all the problems in the world, so one is trying all the time to bear his problems in mind, as well as one's own. Especially since this is an all-location picture, where we're working in actual buildings, he must be kept aware of the limitations of not being able to rig as he would in a studio."

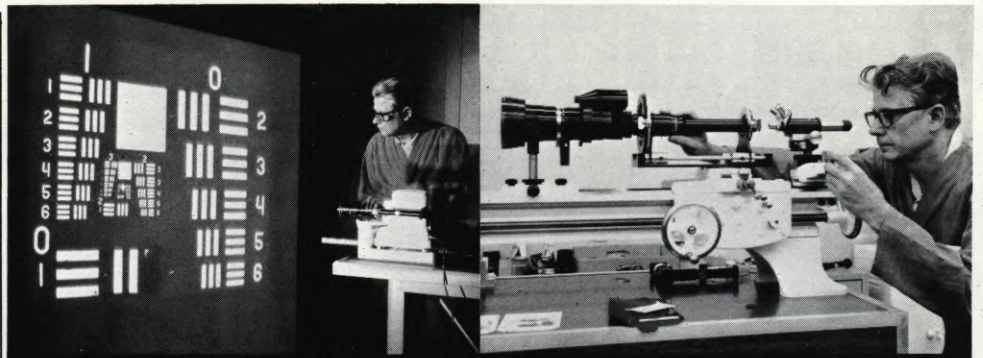
I ask his opinion as to whether, from the Art Direction standpoint, he considers it more difficult to do a picture entirely on location or to shoot in the studio, where you have to build everything.

"The problems are different," he tells me. "If one is doing an all-location film like this one, the major difference is that you have no backup. On the other hand, if you're doing a studio-based film—even one that is shot mainly on location—it requires simply a telephone call to the studio to get whatever facility you may need. In a situation like this, where we're basically just working out of an office in London, it means that no matter what you might need, from a nail to a piece of furniture, you've got to find where it is, select it, and organize its transport, its delivery and its placement where you need it. Then, even when the unit moves on, you've still got to arrange for someone to clean up the place, put things back the way they were, and transport everything where it must go. It's mainly a difference in organization.

"On this picture, you're out on a limb and you've now got to organize all your own facilities. In consequence, it's not so much a question of design as organization and just trying to put whatever flair you can into whatever exists, rather than being able to create your own design."

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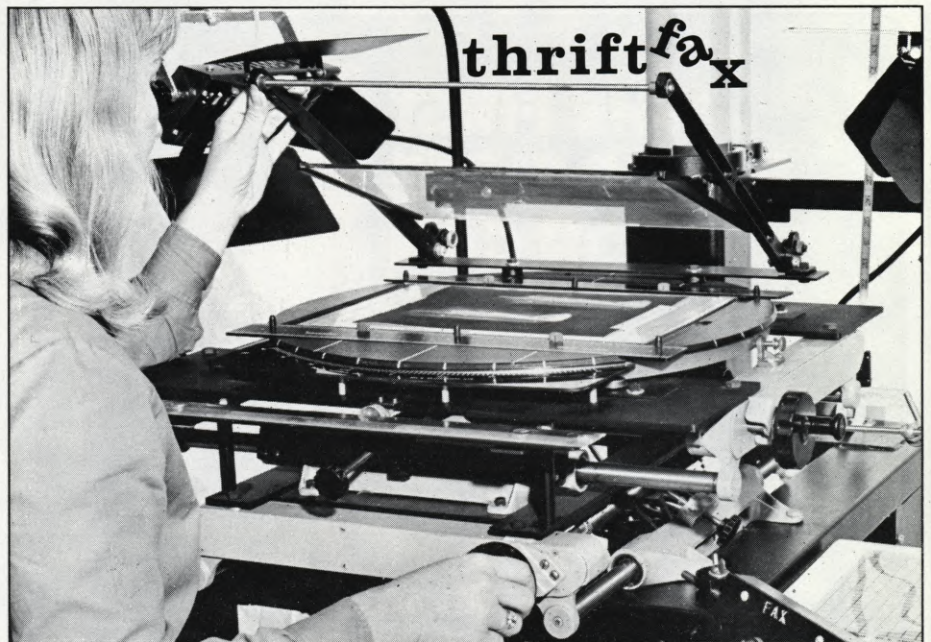


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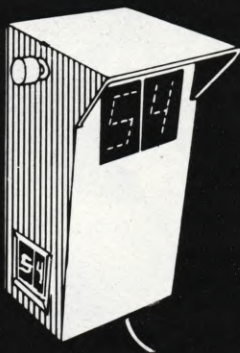
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of the British Secret Service in France, and one of the rooms has been dressed with a long conference table and accessory decor.

Ambient light coming in the windows of the room has been boosted by means of a Brute arc placed outside, and because the available space of the room is all but occupied by the large table and the men grouped around it, the challenge of placing other required lights becomes rather formidable. Somehow they are placed, more or less as needed, and the shooting begins. The standard Panavision R200 camera is used for filming the close shots of the main characters at the table, but when a long shot of the assemblage is needed, it's Panaflex time. The compact little gem of a camera is backed right up to the far wall to get the widest possible angle of coverage.

After this interior sequence has been shot, the company moves outdoors to film a long shot of the building and then a running shot of the agents' automobile driving through the grounds. For this latter shot, the automobile is hitched to the camera car which will tow it and film the action at the same time in conventional fashion. For this scene, Freddie Young rides the outrigger mount himself to operate the camera so mounted. He explains that since he weighs "three stone less" than the Operator, he is the logical one to run the camera, since he won't weight the side of the car down nearly as much.

The next move is to the busy Place de la Concorde, where another running dialogue sequence of the two men in the automobile will be shot—but this time without the camera car towing their vehicle. The reason, I assume, is that a two-car hook-up would draw too much attention from the crowds in the square.

The Panaflex is rigged onto the hood of the car, together with a quartz light to illuminate the actors' faces in order to balance somewhat with the background light.

It develops that the only way Blake will be able to tell how the scene plays is to ride the hood of the car himself, curled up around the Panaflex like an anchovy around a caper. At first I think he's got to be kidding, but he really means it. The soundman is scrunched down below the back seat of the car. Blake assumes his position as a hood ornament and off they go, tooling around the Place de la Concorde to startled glances from the passers-by.

While the crew is wrapping up from that maneuver, I have a chance to talk to Blake at some length and I start off by asking him his general impression of the shooting thus far. He ponders a

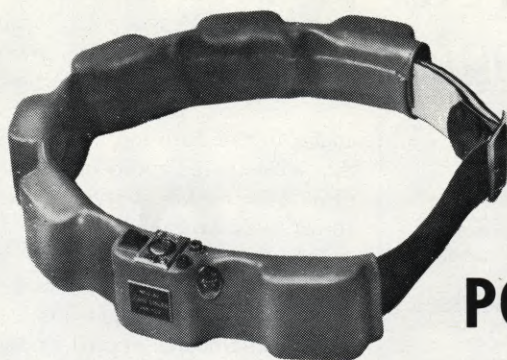
moment and says: "Well, I think that probably the best lesson I've learned—and I feel that directing becomes a learning process, if you want to keep on doing it—is that there are certain films that you can shoot principally exterior (and by that I don't just mean exterior on the streets, I mean in natural sets, without shooting in the studio) and that there are other films which just do not lend themselves to that method, no matter how hard you try. That's not to say that you can't shoot them that way, but it's to say that you limit yourself so greatly that the end result is not what it should be.

"I think probably—and I'm really putting myself out on a limb by saying so ahead of time—that if there is anything wrong with this film, it is the limitation of the sets. This is supposed to be a kind of glossy, high-fashion—if you will—spy-intrigue, love affair type of picture that needs, not only a certain background, but a certain kind of movement and pace from the actors. When you go into non-studio sets you are, in this case, limited in movement, and I find myself putting restrictions on my actors that I wouldn't put on them in a studio set where I could pull a wall out. That's not to say that there aren't many films that couldn't be shot—and, indeed, *should* be shot—in natural locales, but I feel that this one should have been shot partly in natural locales and partly in the studio."

I remark that, given the conditions under which the film is being shot, Freddie Young would seem to have been a very wise choice as Director of Photography. Drawing upon his long years of experience, he can cope with whatever difficult conditions prevail and still come up with photography that has the gloss of professionalism to it.

"Yes," says Blake, "that's one of my principal reasons for feeling very fortunate to be working with Freddie. I don't want to overemphasize the glossy look, because there are areas in this film that should not be glossy. There are areas that should look very documentary. Then there are other times when there is a kind of glamor needed in the photography, so that I can play these characters against that glamor. This is very important to the feeling of the story. I chose Freddie because he seems to be able to adapt to both areas. He photographs women beautifully—and by that I mean that he photographs them beautifully *with a very natural look*. He's got Julie looking just great, with practically no makeup on her. The freckles even come through in some of the sun shots we did in Barbados. But then, when it's necessary to get inside a car and shoot a

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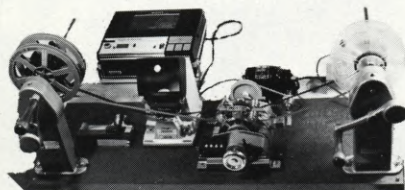
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very documentary scene, or take a long focal length lens and sneak in on somebody at a distance, there's no problem with that either. He can put his foot on both bases. The man is a consummate Director of Photography. He can do anything, as far as I'm concerned."

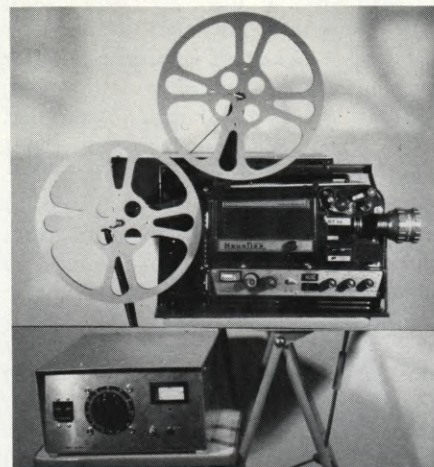
I mention the prevalence of low angles in the shooting I've observed. "Is that a calculated approach," I ask, "part of a definitive visual style you've selected for this picture?"

"Actually, it is calculated," he says. "Because we are, as I said before, limited to some degree, I find that being somewhat unconventional in my setups—in terms of either high or low—helps greatly when I'm not able to move my camera a lot. But even more importantly—and this is visceral, a gut reaction—there seems to be an inherent drama to the low angle. This began to make itself known to me early on, as it probably did to Orson Welles when he made 'CITIZEN KANE'. Also, it seems to me that when you're using the Panavision aspect ratio and you are limited top and bottom, quite often if you want to point up suspense, dropping the camera a bit seems, at least to my eye, to increase your perspective. It gives you a kind of greater distance beyond and it gives you an interesting vantage point from which to view that kind of scene going on. I think that when you are dealing with suspense and intrigue, such angles are important."

I tell Blake that when I read "THE TAMARIND SEED" in novel form I found it to be suspenseful and absorbing. "But when I stopped to analyze it, I found that most of it is dialogue. There's really very little action to it. I'm wondering how you've met this challenge—both in adapting the screenplay and staging it for the camera."

"You're quite right, Herb. There is very little action delineated in the novel," he says, "but as you very well know, sometimes the greatest action is in talk—if the characters are vital and interesting and if you can portray them in an action-like way. If you examine closely Welles' 'CITIZEN KANE' and 'THE MAGNIFICENT AMBERSONS', you discover that these are awfully talky films. Yet the people in them are so vitally interesting and are moved about in such an action-like way, that these are very good movies. Whether or not I've been able to accomplish that in this picture is hard to tell. I think I've done it in the screenplay, but whether or not I've been able to give the actors the cinematic latitude to do the best they can with those words is problematic—which goes back to the thing we talked about a moment ago, having to

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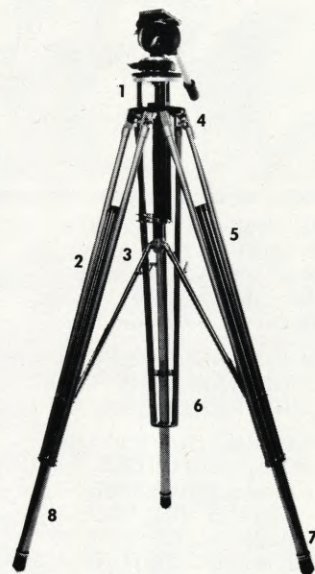
do with the limitations of set. Because, in many of the sets, it's difficult to move my people in a fluid kind of way, there's an awful lot of sitting and talking—and I've had to be very careful of that. Consequently, I've taken some of the scenes that were written as interiors and put them outside to let the people walk and move. When I did 'DAYS OF WINE AND ROSES', that was a very talky piece. Yet, by virtue of the fact that I had a very mobile camera, I could keep my people in action-like situations. I hope I've been able to do that here. Perhaps I have and perhaps I haven't—but if I have, then I've learned a very great lesson about what to do under these very restricting conditions."

"I'm sorry I couldn't join you in Barbados—although I thank you for the invitation," I tell him. "Did you encounter any special problems while shooting there?"

"Well, the problem for everybody—and particularly for the actors—was having to work in the very humid high temperatures there," he says. "The lights drove the heat up even more, making things enormously difficult. Aside from that, it was a rather enjoyable location. What few problems we had were quickly overcome. I must say that the crews in the United States will have to look to their laurels, if this group is indicative of the caliber of English crews, because they're great. I've never seen a more industrious, hard-working bunch of guys in my whole life. They're very pleasant and they seem to have an *esprit de corps* that I haven't been around in a long, long time. I must say that too often we become jaded in this business and don't look upon it as the wonderful adventure, if you will, that it really is. But these guys seem to feel that way. They're really full of life the way they run and haul those arcs around.

"And as for Freddie Young—I think his last name is very appropriate. I've never seen a younger 70-year-old in my life. He can run the whole bunch of us ragged, and the crew respect him enormously. They call me 'Guv'nor', but they call him 'Sir'. They have tremendous respect for him—just as I do. I've never seen such vitality, such energy and such enthusiasm. You'd think that after all these years, like some of our other famous cinematographers, he would have become a little jaded, but he hasn't. It's like a new experience every time he walks on the set in the morning. He's vital; he's tough; he gets it done, and he's unique. They really broke the mold when they made him!" ■

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WHAT'S NEW

Continued from Page 760

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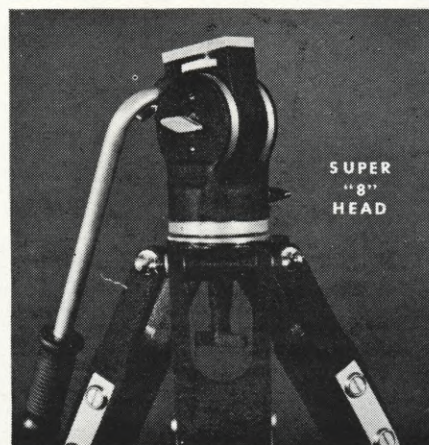
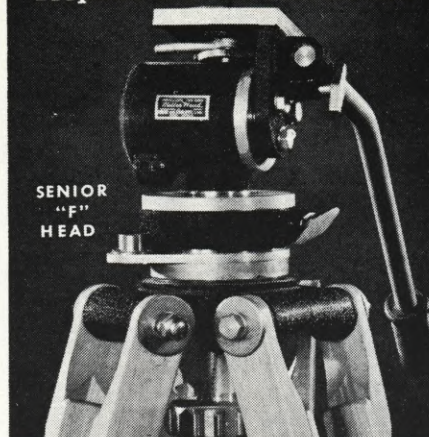
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INDUSTRY ACTIVITIES

Continued from Page 784

fourth year as director of filmmaking at the Institute. Mr. Bass is himself a prize-winning filmmaker.

Institute Director Tom Andrews will head a unit on Film Studies in the Schools which will include seminars and meetings with film distributors and educators from around the country. Mr. Andrews is the founder of the Institute which began five years ago under the guidance of The American Film Institute.

Personalities from the film world each year visit the Institute where they hold one- and two-day sessions with the participants. Those visiting Kent the last four years include critics Andrew Sarris, Hollis Alpert, Joy Gould Buyom and Molly Haskell; directors William Friedkin, Mike Nichols, Arthur Penn and Sydney Pollack; screenwriters Robert Anderson and Thomas Ryan; and performers Fredric March, Florence Eldridge, Teresa Wright, Alan Arkin and Kirk Douglas.

A grant of \$10,000 to The Kent Summer Institute has been announced by the National Endowment for the Arts.

For more information, contact Tom Andrews, Institute Director, Kent School, Kent, Connecticut 06757.

ACADEMY OF MOTION PICTURE ARTS AND SCIENCES MEMBERS ELECT 12 TO BOARD OF GOVERNORS

Members of the Academy of Motion Picture Arts and Sciences have elected 12 members to its 36-person Board of Governors. Five of those elected were re-elected from last year's Board.

Those elected, and the Branch each represents are: Ricardo Montalban (Actors); Walter Scott (Art Directors); Sol Halprin (Cinematographers); George Cukor (Directors); Marvin E. Mirisch (Executives); William H. Reynolds (Film Editors); Jeff Alexander (Music); Walter Mirisch (Producers); Mike Kaplan (Public Relations); Hal Elias (Short Subjects); Donald C. Rogers (Sound); and Fay Kanin (Writers).

Those re-elected from last year's Board are Scott, Cukor, Marvin E. Mirisch, Walter Mirisch and Elias.

The election was certified by Price Waterhouse & Co., public accounting firm which supervised the balloting.

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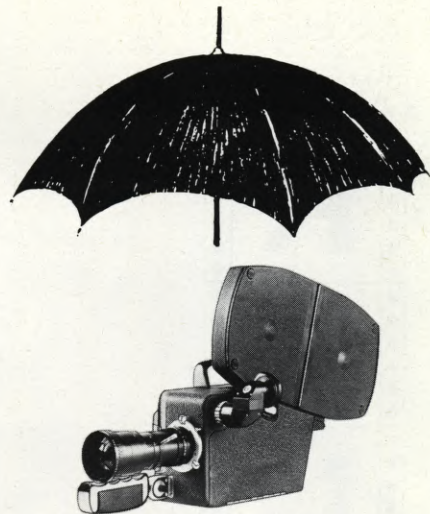
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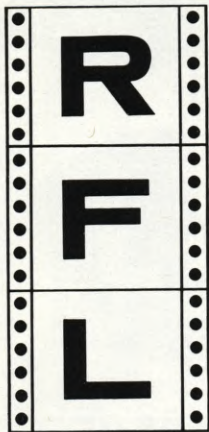
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BERKELEY FILM INSTITUTE

Continued from Page 823

helped us locate, makes the Film House the only commercial laboratory on the Berkeley-Oakland side of the San Francisco Bay. Additionally, by subcontracting color processing to Highland Laboratory in San Francisco, the Film House is a convenient one stop drop-off for customers with Eastman-Ektachrome commercial film 7252 and Ektachrome EF film.

Skip is currently providing us with information and advice concerning use of the new Eastman color negative film 7247, which has been of professional interest to the independent film-makers who comprise our faculty. Considering the advantages that the new negative film offers, it is highly probable that this new stock will soon be used interchangeably with the more familiar ECO 7252, depending on the mode of distribution and the conditions of production. Knowing how to select the appropriate film stock for a particular job is one of the areas I cover in my own course, phototechnology. When people become serious film-makers, this kind of knowledge, along with the other topics I include—color theory, densitometry, and laboratory operation—takes on a great value. Our film school is oriented entirely toward independent film-making, and that means giving our students sufficient technical background so that they will be able to control all the variables.

But if our school is somewhat unconventional it is due to a philosophy that we all share concerning the role of the media in our civilization. Film no longer means just "the movies." The motion picture medium has expanded considerably beyond the sphere of entertainment to become one of the most important channels of communication in our mass society. What we are doing here at the BFI is not simply running a school; we are helping to secure a free and open flow of information by making the film medium accessible to the public. This is why we keep our course fees low and why we remain responsive and flexible.

This is also at the heart of the Institute's other major program—educational development. "Film-making in the schools has the potential to make a child's education more relevant, more exciting, and more productive than anything else currently within the realm of human experience." This modest claim is David's unequivocal position on the role of media in education, which has been a big new frontier in the last several years. His reasoning, which is

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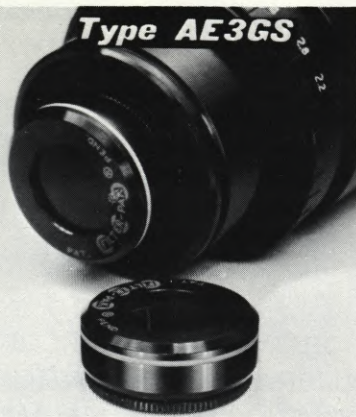


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shared by many other educators, is that media education has become an essential, though neglected, component of a child's experience. Schools cannot adequately prepare people for life in a modern technological society when they confine the teaching of communication skills to reading and writing lessons in an English class. In a society where more than half the information flows through audiovisual channels, it is necessary for educators to take a broader approach to the subject of communication.

This is precisely the purpose of our new Center for Creative Learning which is evolving into a base for educators with alternative ideas. One such example is Betsy Pollock, who received her degree in Education at the University of Wisconsin. Her experience as a student teacher was so uninspiring that for four years following graduation she did not go near a classroom. Last summer, when we were just becoming active in elementary education, Betsy worked for free, assisting a teacher in the nearby Richmond Unified School District who teaches film-making in a special program for gifted children. Since that time Betsy has been teaching regularly in the same program at six different schools in the district.

However new this concept may seem, film-making in the schools has been around for awhile. Darrell Sevilla, the most experienced member of our staff, has been doing it for nine years with such success that his kids are annual winners in the Kodak Teenage Movie Awards contest. Darrell's magic bag of little people's films is irresistible testimony to his own contention that a kid with a camera and a little bit of freedom can result in more personal growth than all authoritarian conventions the educational system has ever produced. "The real magic of kids making films is the self-exploration that occurs. They learn who they are, and they tell you in the bluntest of terms."

But if neither the survival value nor the personal growth we attribute to media activities is a sufficient case for bringing film-making into the schools, an argument can be based on more traditional criteria. Film-making can be used as a learning vehicle in the same way as paper writing, but more effectively. Writing a paper often involves looking up a subject in one or two books and then rephrasing the information into a report. Making a film takes the process one step further; the report has to be transformed into audio-visual images, and that requires considerably more thought.

Translating from the abstract domain

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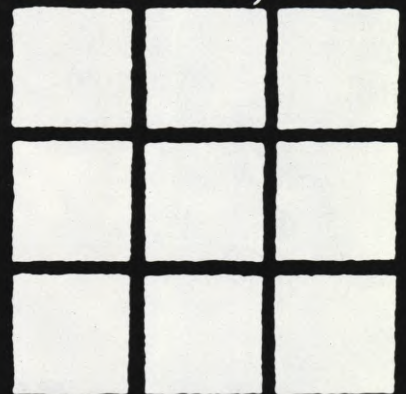
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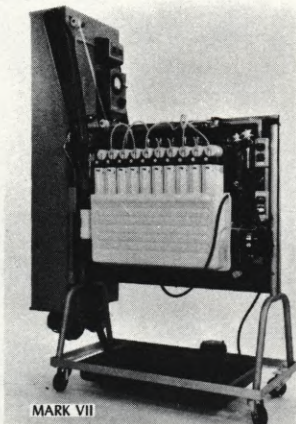
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of words to the multi-sensory language of cinema reduces the distance between the student and the object of exploration, and brings him directly in touch with the essence of the concept. It also adds a whole new dimension by compelling him to learn more about the subject and to consider how he feels about it. For example, a written report on the fall of Rome can simply be the retelling of who did what to whom between certain dates in history. A film about the same subject, whether dramatized or animated, would require the kids to re-create the sights and sounds of the civilization. They would have to learn more about how the ancient Romans lived; their styles of dress, architecture, weaponry, and many other aspects of what we know as culture.

And for those who might fear that film-making will de-emphasize the development of reading and writing skills, there is considerable evidence to the contrary. The fact is that a properly handled film project can not only improve children's reading and writing levels, it can actually stimulate their interest in doing either of those things. Some of the reasons for this phenomenon are obvious. We know, for example, that additional research and planning that go into making a good film simply require more reading and writing. But there is more to it than that; film is a language, and making films helps children develop an understanding for how language works.

This is an area which is very experimental, and of great interest to us. We are currently designing a curriculum for using media activities in early language development for the primary grades at one of Betsy's schools in Richmond. We believe that this approach, which focuses on the dynamics of language and communication, will help children read, write, speak, and generally express themselves more effectively than conventional methods.

Regardless of all the subtleties, "doing the media" is a great device because it brings new interest into the classroom. It is stimulating, fun, and interesting. It teaches the kids to organize a project and work together. And it gives them something they can share with their families and friends a long time after they have finished it.

If the 60's was a time for shattering the rigid bonds which had hamstrung so many of our institutions, then perhaps the 70's will produce new ways of doing things. This is why the Berkeley Film Institute is here, and it will continue to function as long as energetic people with innovative ideas make that happen.

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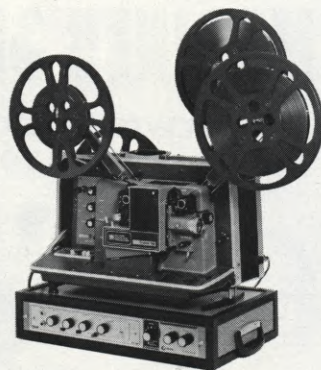
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UFO: TARGET EARTH

Continued from Page 830

recording via video camera of computer-generated imagery, such as a fibonacci spiral; live video recording of a subject; or, pre-recorded video tape. Dan is now in the process of building an additional module which will allow color video input, as well.

Essentially, the system works in this manner: as the Image Processor is fed by a patch from the camera, the tuning knobs on each module permit control of value changes during the processing of the signal. Another patch from the Image Processor to a monitor allows the effect to be seen in "real time" and altered as desired, while the signal is simultaneously recorded on tape.

In UFO: TARGET EARTH, we will be using the special effects created by the Image Processor to show the presence of alien "beings," and we think it will be a far more persuasive visual than people are accustomed to seeing in such programs. Those few people who have seen the results of the I.P. have been genuinely impressed.

In a sense, UFO: TARGET EARTH will be a film of many cinematic influences. Besides the use of the I.P. special effects, we are using a mix of 16mm blowup with the 35mm for shooting the film's action. This isn't because we ran short of 35mm stock, but has been deliberately planned to take advantage of the quality difference between the two. Those sequences using 16mm will be the interview scenes (we wanted to get a news-type effect) and, as earlier described, the annular eclipse.

The film, written by Michael de Gaetano, was shot on location at various sites near Atlanta, including a military base, a cattle ranch, a state reservoir, a university campus, and a science center and observatory.

I think we will have something worth seeing, and the project has certainly been involved—from Costa Rica to Chicago. It has us believing in UFO's. ■

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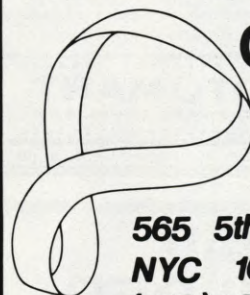
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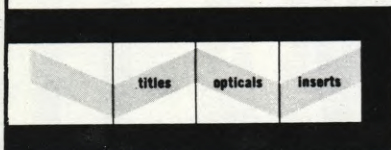
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excitement than a falling star.

But the photographic expedition to Costa Rica, assisted by Bob Libby (we are both from Atlanta), was not a total failure. While there, we were able to get some truly remarkable footage of the annular, or ring, eclipse. This footage will be used in a new science fiction feature, *UFO: TARGET EARTH*, filmed in Atlanta by Centrum International Film Corporation, with Jerry Crowder serving as Director of Photography.

Bob Libby and I were members of a 60-odd expedition led by Dr. Donald Menzel, the "eclipse king." Dr. Menzel is a Paine Professor of Practical Astronomy, Emeritus, Harvard University and Research Scientist, Smithsonian Astrophysical Observatory.

The expedition was organized and sponsored by Educational Expeditions International of Belmont, Mass. It was planned as a multi-purpose mission: to observe southern constellations, to photograph the eclipse, and to view—and film, if possible—the perihelion passage of Comet Kohoutek on Dec. 28. (The reason this was important is that as a comet passes closest to the sun, solar heat causes increased disruptive activity in the comet's nucleus; hence, greater brightness and visibility.)

Though we knew Comet Kohoutek's time schedule well in advance, and were naturally excited about this new "visitor" from outer space, there was a period of frantic, last-minute rushing.

The first three days were especially tense. We arrived in Costa Rica on Dec. 22 and had to be ready to shoot early on the 24th. That left us just one day to set up—and it was to be a one-take shoot. To prepare for the filming of the annular eclipse, we had to take into consideration the need for special equipment. Bob and I decided to combine a 500mm Kilfitt Telephoto Mirror Lens and a Micro-line Sun Filter (which reflects the ultra-violet, visible and infrared solar energy) in order to protect the cameraman's eye, camera and film, plus keep heat out of the telescope optics. (The Micro-line Sun Filter is an especially interesting device, and works magnificently. The filters have a density of 5.0–0.001 percent transmission—and the one we used was a 4-1/2" diameter.)

We had one other major problem to consider: keeping the sun in frame. We did this by mounting the camera on an equatorial mount, which is a clock-driven device that compensates for the earth's movement and maintains the sun in a fixed position. When we first saw it, the mount was covered with African sand (much like red Georgia clay to

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those who may be familiar with the texture). This had happened during the last eclipse expedition to Akjoujt, Mauritania, and the mount had had to be disassembled, cleaned, and then reassembled on a concrete platform, near the power source from Dr. Menzel's beach house. Once the eclipse had begun and the shoot was in progress, the only frightening experience was a brief power failure that slowed the clock-driven mechanism, causing the sun to jump out of frame for a few seconds.

The equipment we used on the shoot was a 16mm Arriflex with a 400-foot magazine. We decided on Eastman Color Negative 7254 at ASA 64, because it would give us a better enlarged color match with the rest of the footage in UFO: TARGET EARTH, which was being shot in 35mm. We shot 12fps at f/16 and found that sunspots were visible at this aperture. As seen through the Micro-line Filter, the sun appeared on a black background as a pulsating orange ball which gradually transformed itself from a crescent with points up as it rose from behind the moon, to a crescent, points down. It then reconvened into a solid ball. At mid-annularity, an orange ring, wider at the bottom, appeared around the moon. Out of the 2-1/2-hour eclipse period, a total of 22 minutes was shot during the four contact points.

But the expedition was not a thing of all work and no relaxation. After the trials of the first 72 hours, the expedition members had time to relax at their lush, tropical campsite at Playa Flamingo, a private beach club on the Pacific coast of Costa Rica, 10 degrees north of the equator. We attended seminars on astrophotography; optics and UFO's were presented throughout the week, and side trips to nearby villages proved interesting ventures. The Polaroid Corporation had donated cameras and film to the expedition, which pleased the Costa Ricans, many of them marveling at seeing photographs of themselves for the first time.

The Costa Rican expedition was, in part, extremely successful. Comet Kohoutek did not cooperate, and we promptly referred to it as "the grinch that stole Christmas." For those of us away from our homes on Christmas, this was certainly true enough. However, we were able to get some extraordinary footage of the annular eclipse, and it will well serve the dynamics of UFO: TARGET EARTH. Producer-Director Michael de Gaetano had decided that if he made a sci-fi film, he would give it some degree of reality and employ natural resources, as well as computer-created optics for special effects. ■

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Continued from Page 817

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
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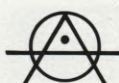
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Size and weight: 2 3/4 x 8 x 9 1/4 in.; 70% oz.

CINEMA WORKSHOP

Continued from Page 768

thumb, an overnight capacitive-type 120-volt battery charger will consume 10 times its ampere-hour capacity. Thus, a four-amp-hour battery belt will draw approximately 40 watts. If a fast charger is employed, this figure has to be multiplied again by the speed of the charge. Thus, if the charger will charge the battery in one hour instead of 12 hours, it is obvious that the charge rate must be twelve times as high. In the above example, the four-amp-hour belt with a one-hour-capacitive fast-charge will draw (4x10x12) 480 watts! That would take a pretty hefty size transformer. On the other hand, some of the better compact "electric shaver" type transformers can handle up to 40 watts (the cheaper ones are rated at 20-30 watts) and will, thus, accommodate a four-amp-hour battery belt at the overnight rate.

If the charger employs a 110/220 switch, make sure it is in the correct position. If it is in the wrong position, the battery will not charge or a fuse will blow. If the charger does not have a 110/220 switch, check with the manufacturers who will recommend the proper size transformer to handle the application.

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