American Cinematographer
International Journal of Motion Picture Photography and Production Techniques
AUGUST 1979/$1.50

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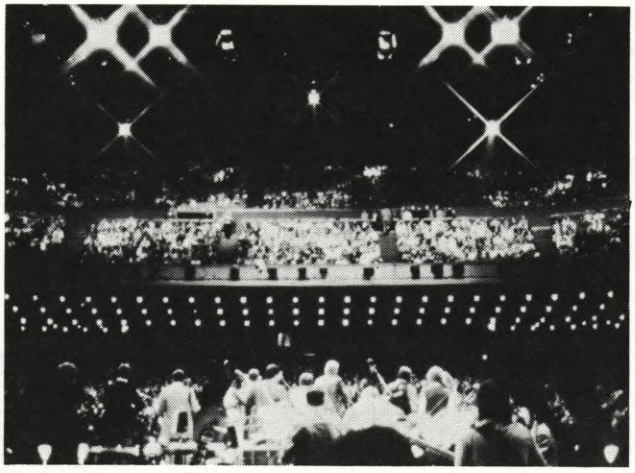
"We use Tiffen filters exclusively at Opryland Productions. We've tried others, but have always returned to Tiffen."

Truett K. Smith



"Tiffen optical filters have enhanced our television production capabilities considerably, here at Opryland Productions.

"We are presently using Tiffen filters exclusively in our television cameras. We have tried other types, but have always returned to Tiffen for our needs.

"We have seven RCA TK-45 color cameras, two RCA TKP-45 cameras, and one RCA TK-76 color camera. Each camera presents us with its own unique filter requirements, and Tiffen filters have met each requirement successfully. The TK-45 cameras have an eight position filter wheel. The filters screw into each of the eight positions. Tiffen offers filters *already mounted in the proper threaded mounting ring*. There is no hassle with trying to buy a filter from one company and a mounting ring

from another and *then* hoping the ring will fit the filter. Tiffen supplies the complete package!!

"The same unique situation applies to the TKP-45. It requires an unusual rectangular filter in a custom slide-in mount. Once again, both are available from Tiffen. Since the filter is rectangular and obviously can't be rotated, as the circular ones can, for desired orientation of a four point starburst, Tiffen gives us the option of a 'cross' or an 'X' orientation.

"We have a complete assortment of four, six, eight and twelve point star filters to offer our clients. In the early days of the four and eight point starburst filters, we felt that we should offer something different—Tiffen came through with an assortment of six-point star filters for each of our cameras. We also use Tiffen's assortment of low contrast, diffusion, and fog filters. Many a complexion has been softened in a close-up shot by a Tiffen low contrast filter. Tiffen's line of low contrast and diffusion filters offer a range great enough to take care of any situation. The filters are effective and yet subtle enough to give the desired diffusion without giving any indication that the picture is being softened.

"We use the Tiffen series of Fog filters when we want to create a "dream" look in our productions. This effect was used several times on the production numbers of the 'Dolly' show taped here at Opryland Productions. The heavier fog filters are especially effective in producing this 'dream' look.

"We also use Tiffen's polarizing filters. These filters are very useful when we are shooting car commercials, outdoor commercials around bodies of water where reflections on the surface are a problem, or outdoors where a deeper blue sky is desired. The polarizing filters are also useful for eliminating any undesired reflections and glares which would otherwise distract from the finished product.

"Price is of course always a consideration in choosing any item we purchase, whether it be an optical filter or a complete color camera system. We have learned, however, that it is very easy to be 'penny wise and pound foolish.' The prices of

optical filters vary greatly from manufacturer to manufacturer. The most expensive we have found, are not necessarily the best. Tiffen's prices are well within reason—they are not the cheapest, but neither do they fall in the most expensive group. Tiffen's lower cost means that we are able to buy more Tiffen filters and still remain within our budget.

The Tiffen filters we use have been very satisfactory. The availability, delivery, reliability, variety, and prices make Tiffen our first choice at Opryland Productions."

Truett K. Smith
Senior Video Engineer

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American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

The American Society of Cinematographers is not a labor union or 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 initials 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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AUGUST 1979 **VOL. 60, NO. 8**

● FEATURE ARTICLES

● DEPARTMENTS

ON THE COVER: A deadly egg, dripping with menace, from which springs a creature that takes a hideous toll of astronauts aboard a space freighter, is symbolic of the horror that pervades the Brandywine-Ronald Shusett Production of "ALIEN", released by 20th Century-Fox. Cover art courtesy of 20th Century-Fox.

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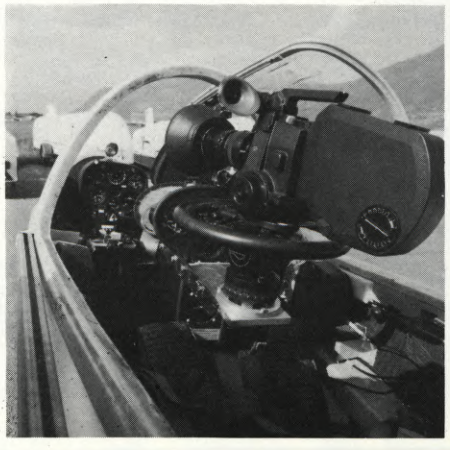
AATON

Not just an ultra-quiet indoor camera...

The Aaton 7LTR is versatile, rugged, and reliable.

Two Aatons made a trip into the Himalayas recently. This BBC shoot was a real challenge–150 miles on horseback, the rest of the journey on foot, nearly 80,000 feet of film shot in the dust ridden Zanskar Valley.

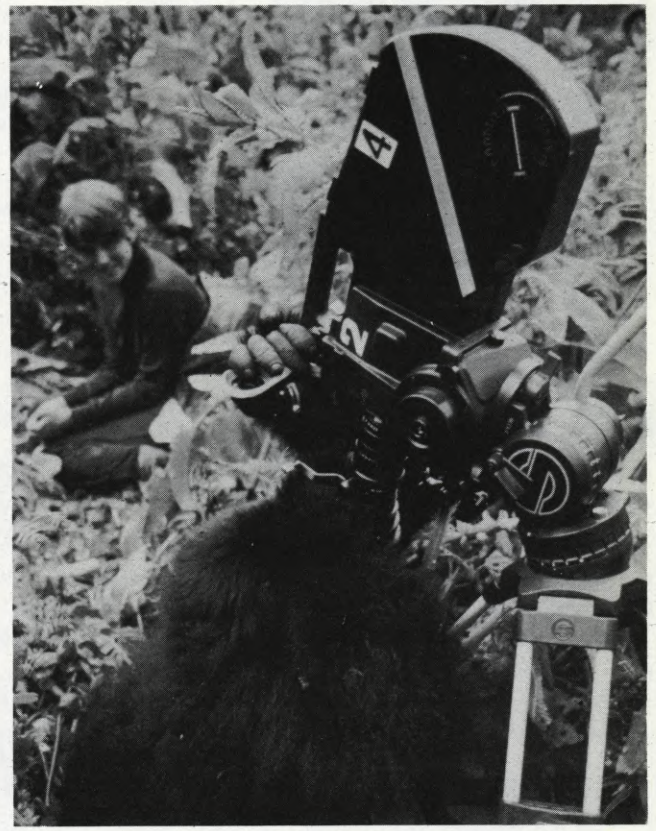
In Austria, the Aaton has been high-flying; Herbert Koller Co. have built it into both helicopters and open cockpit gliders– the glider installation is shown here.



In the National Volcano Park bordering on Zaïre, a French team did an assignment on the local gorillas–here is what Guillermo Escalon reports:

"We were on Karisimbi and Bisoke volcanoes (15,600 feet at the craters); we moved about in the passages left by the gorillas, with the cameras in packsacks–you can imagine we appreciated how light they were. With the gorillas, we had to move very calmly; luckily the Aaton magazine was a boon–no thumping or bumping. In the morning, we had to wait for the condensation to dry off the lenses set out in the sun before we could start work; all the optical equipment was opaque with condensation. Once again–bravo for the camera.

From there we went to Akagera National Park–Savonnah, hot, but dry; the cameras made the change without a whisper."



The cameraman with his hand on the viewfinder is a gorilla.

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WHAT'S NEW

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deadline on MOONRAKER. I consider it a very important cutting room accessory and, on a location picture such as ours, its easy transportability has been a real asset. My staff have found it excellent for syncing up dailies, fitting wild tracks, post sync and laying effects and music for re-recording."

Acmade Picture Synchronizers are being marketed in Australia and throughout the South East Asian region by the John Barry Group with offices in Sydney, Melbourne, Perth and in Auckland and Wellington, New Zealand.

In the States Acmade is handled by Acmade Technologies Inc., Alan Gordon Enterprises Inc., Eastern Editing Equipment and Adolph Gasser Inc.

Acmade is manufactured by Acmade International, Uxbridge, Middlesex, England.

●

MACHINE SPEEDS 35MM FILM EDITING

The editing of a feature film normally takes several months and both sound and film editors invariably find themselves under considerable pressure to meet their very tight deadlines.

A development that is reducing editing time by a substantial amount is the new 35mm version of the Acmade Picture Synchronizer known as the "Compeditor 35". This motorized editing machine incorporates into one unit a viewing head and four sound tracks, with one of the tracks being disengageable, thus allowing all searching to be carried out on the same machine. These models are now being introduced on several major features in British and French film studios. The manipulation of film and magnetic sound tapes on these machines is very simple and, as a result, the editor is able to work at high speed. The unit is rugged in construction, yet portable, weighing only 19kg.

Acmade's Picture Synchronizers are already very popular with documentary and industrial editors in many countries. The development of these 35mm versions will mean substantial time and cost savings for feature film producers and for the makers of advertising commercials.

John Glen, Editor of the new James Bond film MOONRAKER, says: "Our Acmade Compeditor 35 has been invaluable in helping us meet the very tight

COMPACT 4-INPUT MICROPHONE MIXER FROM CINETRONICS

Cinetronics has developed a new compact 4-input microphone mixer. The CM-1 operates on two 9-volt batteries or external power 9 to 20 volts with ± or + ground. The CM-1 also supplies 12 volts phantom power for shotguns. All audio connectors are standard XLR. Balanced inputs have individual low-cut equalization −12db at 50 cycles. The output is switchable to balanced mike level or unbalanced line level. Features VU meter, line-up tone, battery test and LED peak indicator (adjustable).

The CM-1 Mixer offers completely new, non-visual distortion control system for one-man camera and sound work. This unique system for audio level control without VU meter monitoring provides a distortion-free output to a film or video recorder at a consistent level for best audio *without utilizing automatic level control.*

Unlike many mixers which use an intermediate audio stage for a headset monitor, the CM-1 processes the last audio stage of the amplifier before recording through a clipping circuit which induces easily detected distortion in the headset circuit only. This distorted audio is actually 12dbs before the level at which distortion will occur on the tape. By reducing gain until this distortion is not heard in the headset, the operator restores his 12dbs of head room before audio quality is affected on the tape.

Size 6.5" x 2" x 3.5". Weight: 31 ounces. Frequency response: 40Hz to 18Khz ± 1db.

Patent pending.

For further information, contact: CINETRONICS, 12231 Roscoe Boulevard. Sun Valley, California 91352. Tel: (213) 767-4874.

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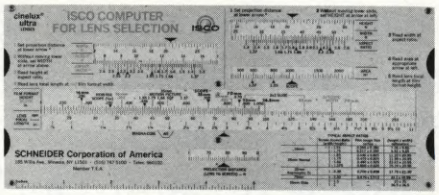


NEW ISCO CALCULATOR AIDS SELECTION OF CINEMA OR STILL PROJECTION LENSES

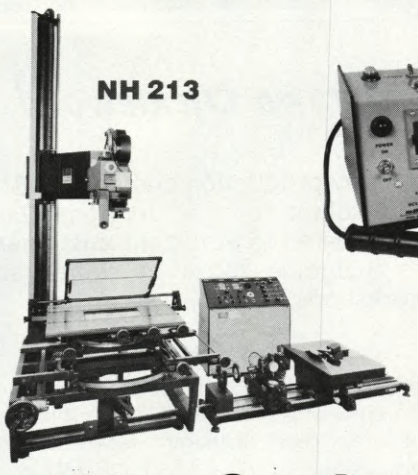
A new image projection sliderule that simplifies calculating image size as related to projector-to-screen distance and lens focal length is now available from Schneider Corporation of America, U.S. distributor of ISCO Theatre Projection Lenses.

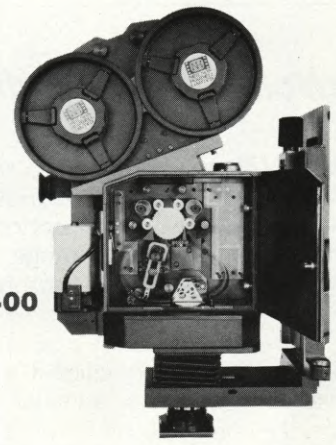
The calculations are applicable to projection of a wide range of motion picture or still formats, from 16mm to 35mm to 70mm motion pictures plus 35mm slides. Developed in a sliderule format, the calculator provides separate scales in inches and in metric measurements.

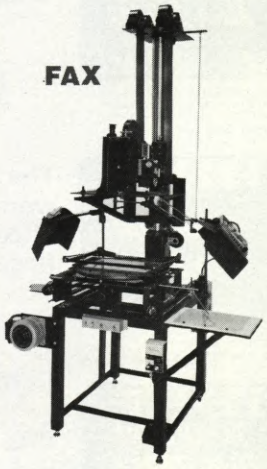
The calculator will compute picture size for any projection distance from 20 to 300 feet, for any lens from 16mm to 300mm focal length. Picture size calculations cover the range from 5'x7' to 50'x70'. A separate "screen area" scale permits quick calculation of the square area of screens of any size up to 5,000 square feet, useful in estimating xenon watts. Typical aspect ratios are supplied in a chart which lists all cinema projection formats from 16mm, as well as 35mm slides.

Developed by ISCO of West Germany, world leader in the design and manufacture of theatre projection lenses, the new calculator is now available at $10,000 each through authorized ISCO Theatre Equipment dealers. For the name of the nearest dealer, contact Theatre Products Division, Schneider Corporation of America, 185 Willis Avenue, Mineola, NY 11501.

animation
everything from stands to cels







Alan Gordon Enterprises is now equipped to meet all the needs of animation cinematographers and artists.

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Animation stands used in • cartooning • titling • bi-pack printing • rotoscoping • aerial image projection. Price (NH 213) **$83,600,** (Thrift Fax Animation Stand) **$6,522.**

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NEILSON-HORDELL DUAL SCREEN FRONT MATTE PROJECTOR MODEL 26-00
This unit, combined with the Zoptic lens synchronization system, enabled Christopher Reeve, ". . . to leap tall buildings in a single bound" in SUPERMAN, THE MOVIE. Price **$65,779.**

NCE II ANIMATION MOTOR
A "Slo-Syn" synchronous stepping motor adaptable to most 16mm and 35mm professional cameras for animation or time-lapse cinematography. Price (Motor and Control Box) **$1,250.** Camera adaptor prices on request.

Also available are previously owned units such as:
- **Acme Model 5 Camera** with 75mm lens, 400 ft. magazine and Acme Animation Motor (rebuilt) . . . Price: **$8,950.**
- **Bell & Howell 2709** (rebuilt) with Unit "I" Movement and 400 ft. magazine . . . **$3,500.**
- **16mm Mitchell** with 400 ft. magazine . . . **$3,650.**
- **Acme #104C Optical Printer** (16mm to 35mm) adaptable to 35mm, 16mm and Super 8mm gauges with B&H color additive lamp housing (fully reconditioned) and capable of performing all the basic optical printing functions required by a motion picture lab or optical house. Price: **$48,500.**

We also stock a complete selection of animation accessories: field charts, peg bars, scribes, polarizers and, of course, cels.

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Introducing

THE PRODUCTION VILLAGE

Samuelson's Mini-Studio Complex in downtown Cricklewood

The Production Village will come to represent many things to many production companies. As a working environment it will be without equal – but its primary role is to be a functional, cost effective film and television production tool. No effort has been spared to put at the customer's fingertips the widest possible range of production services including those of skilled and experienced craftsmen backed by comprehensively equipped workshops.

When it is complete, **The Production Village** will comprise 9 stages varying in size from 185 ft. x 54 ft. right down to 42 ft. x 27 ft.

All stages are equipped with wrap-around cycloramas with radiused coves top and bottom and, while not sound-proofed in the conventional feature-film studio manner, all are provided with red-green light systems and are probably quieter than the vast majority of places where film is shot 'on location'.

Every service expected of a studio will be there, or at Samuelsons in nearby Cricklewood Broadway: fully furnished production offices, rehearsal rooms, crowd rooms, cutting rooms, art department, film vaults, props storage, scene dock, viewing theatres, post sync and effects theatre, stills studio, music and sound-effects libraries, equipment test rooms etc.

Regular Samuelson facilities are available to clients, including sound transfer, telephones and telex service, Xerox copying, offset litho, and dyeline printing.

Samuelsons incomparable camera, lighting, sound and ancillary equipment is delivered to the 'Village free of charge. There are good restaurant facilities, a bar and a canteen.

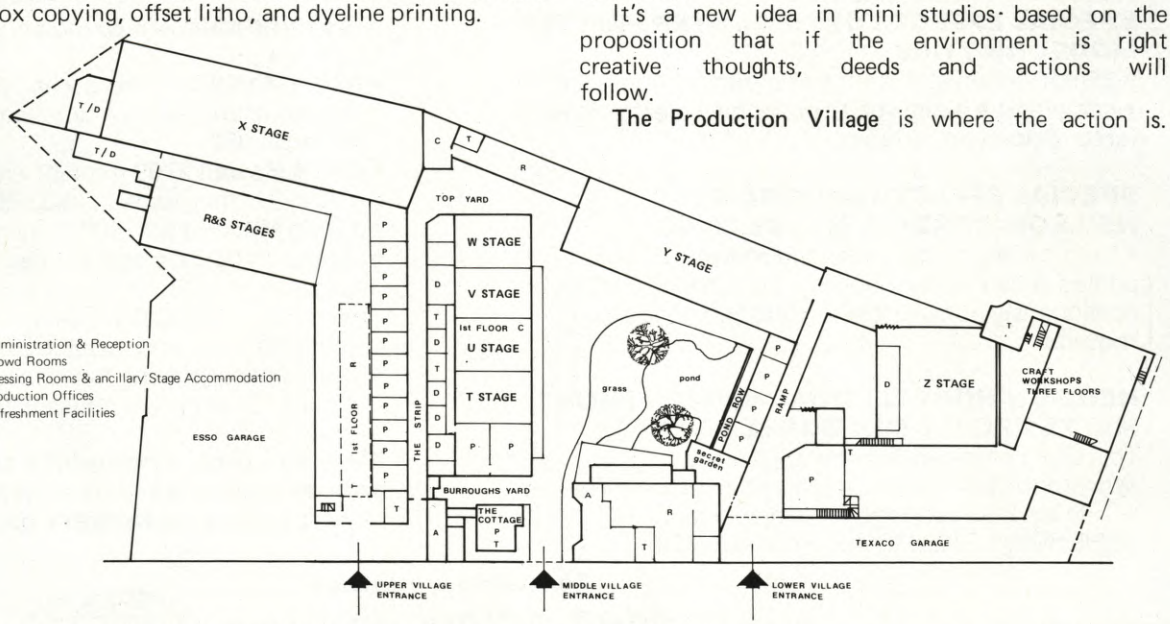
And, most important of all, there is good and skilled labour. The crafts of set construction, painting and spraying, engineering and metalwork, plaster and fibre-glass work and so on, are well cared for at the 'Village.

Samfreight are there to handle your freight and forwarding, and the London Chamber of Trade and Commerce actually has an Export Carnet office located in the 'Village to speed you on your way to foreign locations.

The Production Village is only four miles from Marble Arch, five minutes from the Brent Cross Shopping Centre, six miles from Wardour Street, and, like Samuelsons of London, will be a seven-day-a-week operation.

It's a new idea in mini studios based on the proposition that if the environment is right creative thoughts, deeds and actions will follow.

The Production Village is where the action is.



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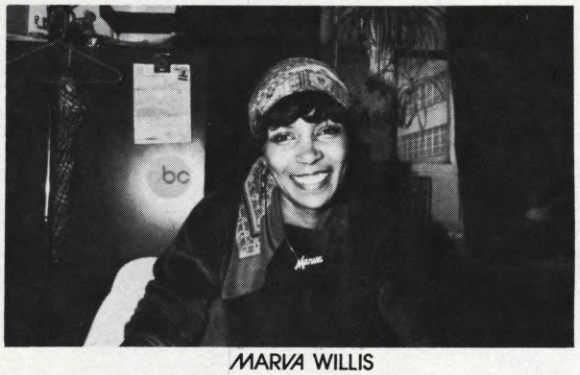

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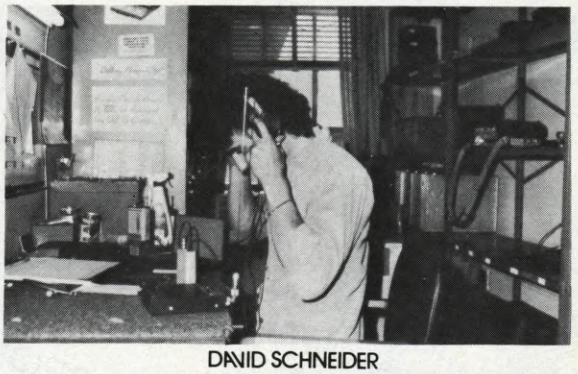

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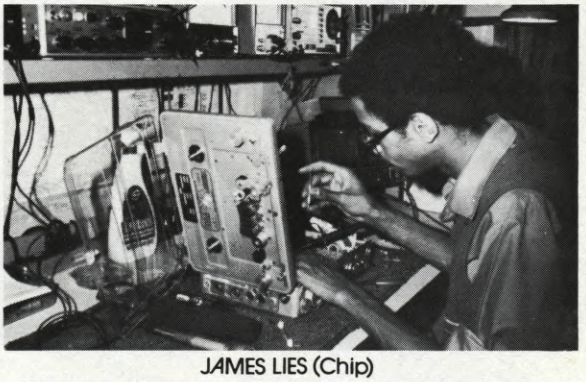

JAMES LIES (Chip)

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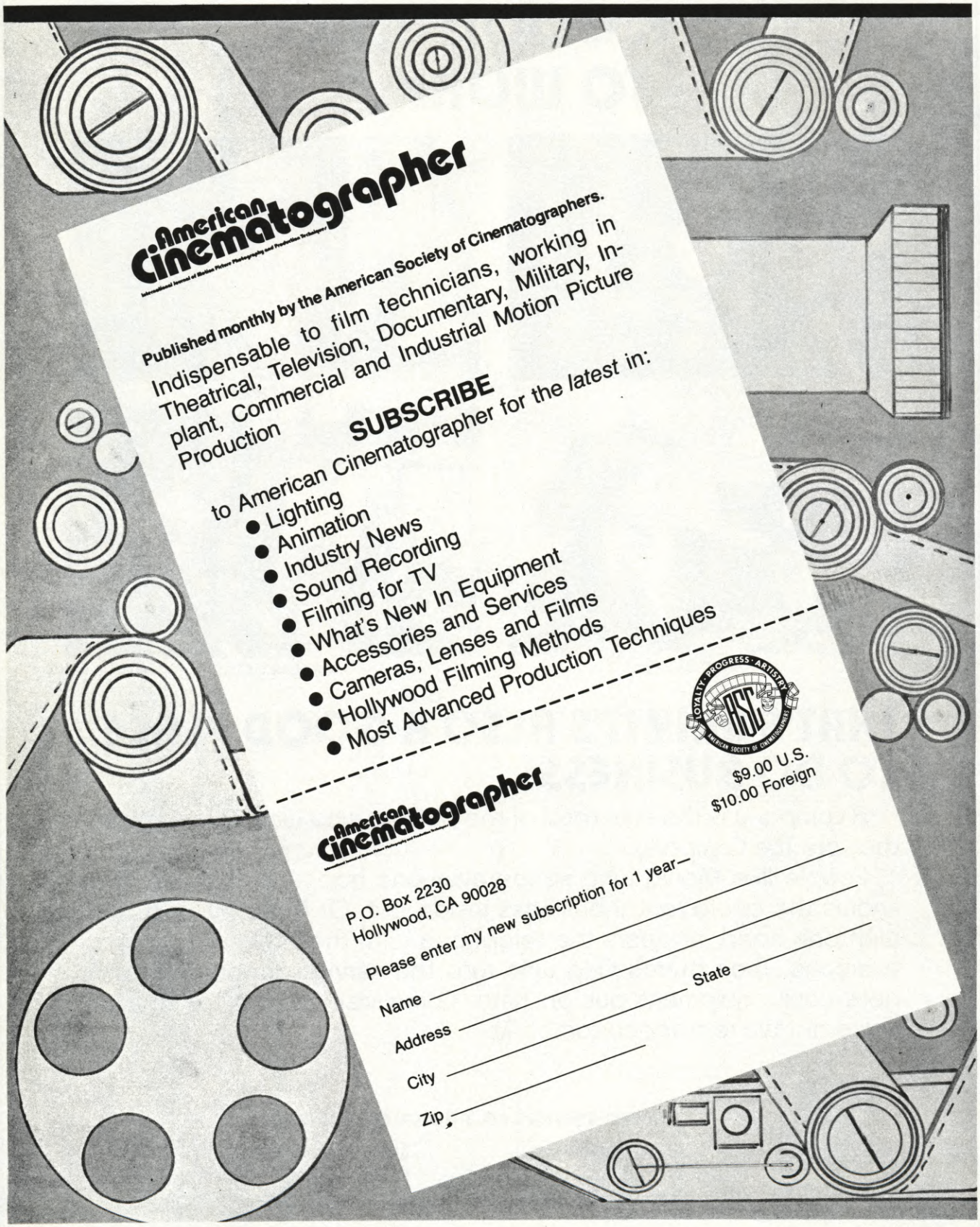
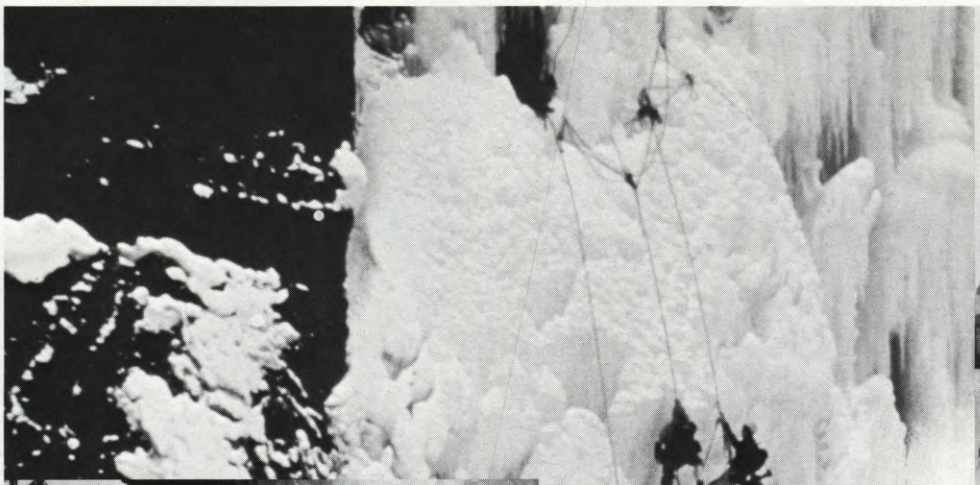
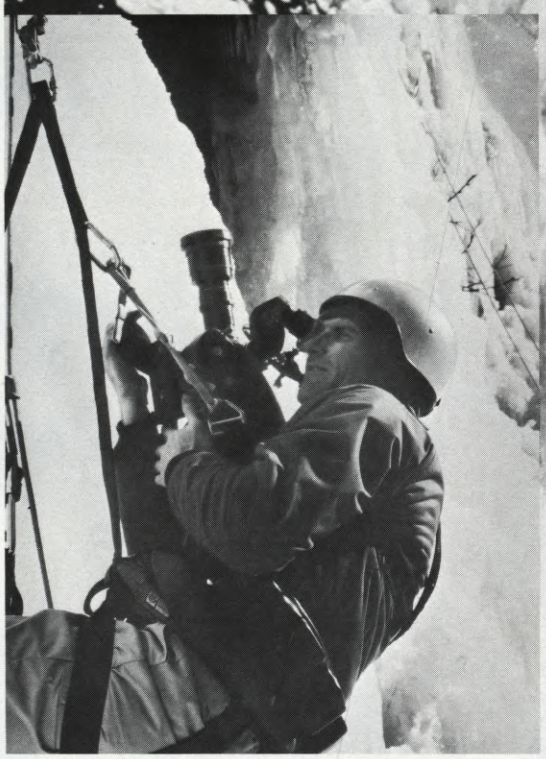


ECLAIR ACL: the rugged reliable quiet camera

ABC Sports selected three cameramen to shoot Bridalveil Falls: All three owned ECLAIR ACL's.



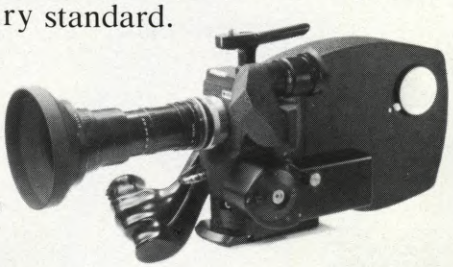


ABC Sports Bridalveil film crew:
cameraman/director—Scott Ransom
cameramen—Bob Carmichael, Greg Lowe
Soundman—Peter Palafian

Bob Carmichael, one of the cameramen who climbed the 500 ft. high frozen waterfall had the following to say about his new ECLAIR ACL:

I bought my ACL after looking carefully at every camera on the market. I work distant locations, usually with challenging environments, often in extreme weather conditions. I've got to have a rugged reliable camera. That's the bottom line. The ACL's lightweight design and quick change snap-on magazines are essential to getting the action in sports and adventure shooting. The new viewfinder is brighter and the LED-7 exposure system keeps me on top of my exposure situation. Get away from the noise of civilization and you discover how really quiet the ACL is. But the thing that sets the ACL apart is the fact that the multi-speed crystal motor runs through even the coldest temperatures. At Bridalveil we actually got ice build-up on the camera body and it continued to function perfectly. ECLAIR ACL is now so well proven that it really is an industry standard.

ECLAIR ACL: the dependable quiet one



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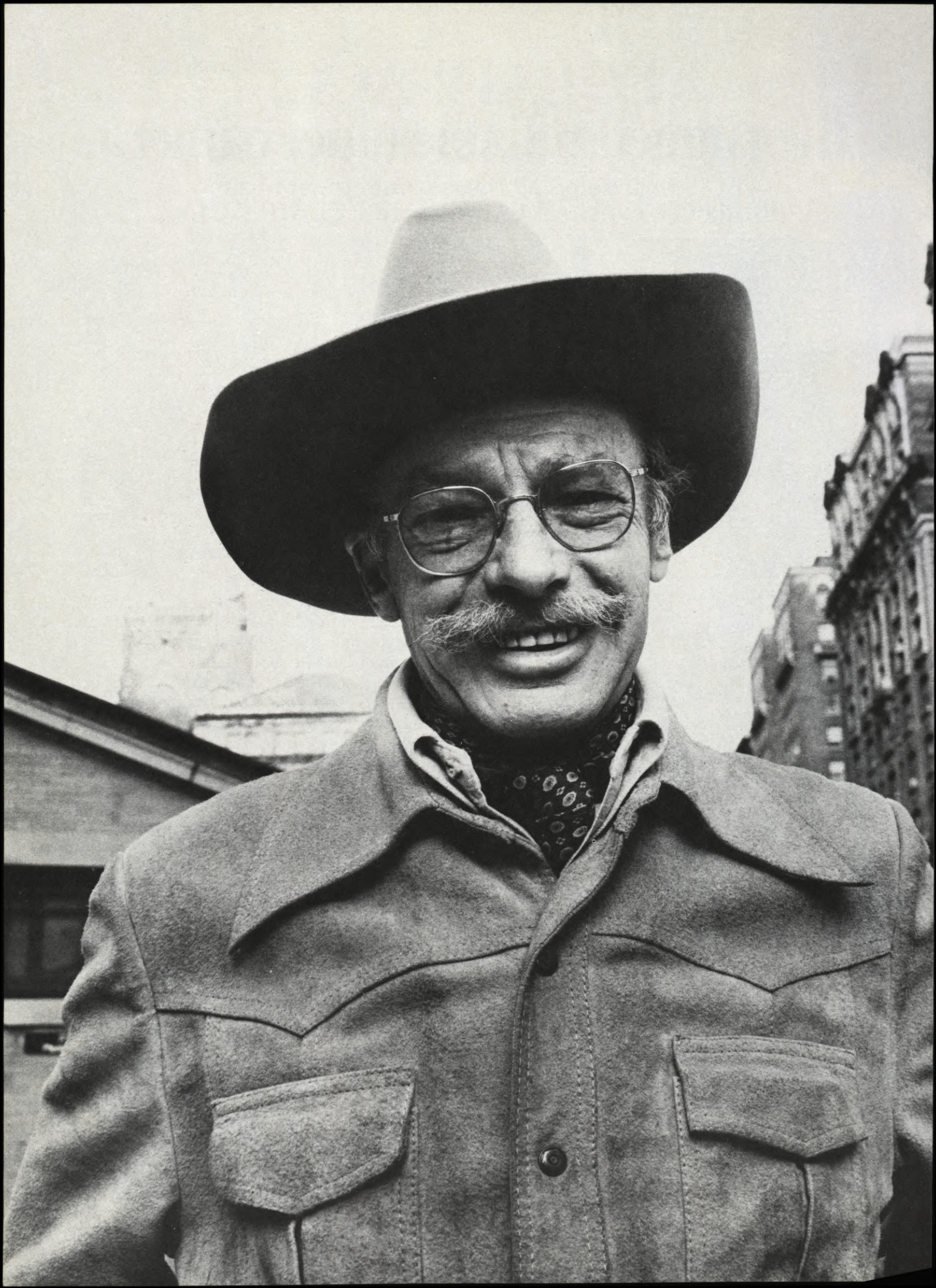

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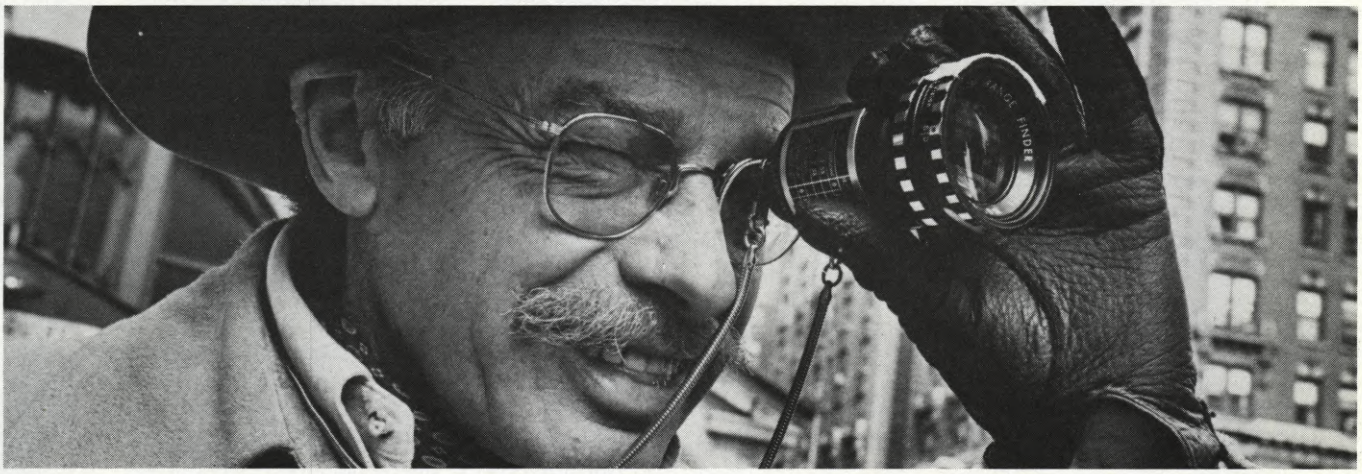

"How do you light the World Trade Center?"

Cinematographer Arthur Ornitz learned to make movies by making movies. He loves New York City, backdrop for such Ornitz-filmed pictures as "An Unmarried Woman," "Anderson Tapes" and "Serpico," to name a few. He credits the joy of shooting in New York to some enlightened city policies, his own hard-won expertise, and even the products of a well-known manufacturer of motion picture film.

"My brother and I learned still photography first. We did everything, got to know all sorts of cameras, did our own processing, the works.

"Then another film student and I got hold of a 16 mm camera and put it in a suitcase with a little hole for the lens to stick out, and we made a short movie about the city from a *dog's* point of view. We carried that suitcase everywhere, shooting from the dog's eye-level. We put it on roller skates, tried things no one else had tried. Our film attracted some attention, and later we were asked to remake it in 35 mm; but for me, it was never as good as it was the first time.

"New York City is one of the world's great movie sets. TV has made audiences more aware of reality. They quickly sense when something is phoney. They want real earthquakes, real streets. They really drove us to shoot in the streets, and it's been great, because it's the real thing.

"New Yorkers take the movie business seriously. They assign you members of the Tactical Police Force, and those officers stick with you. They're paid by the city, not the producer. They're tough guys and sweet to work with. There are very few places in New York that they can't clear for you to shoot.

"Eastman color negative II film 5247 is wonderful for shooting in the city. It has a very fine grain, the blacks are velvety and the whites hold up. When you're using the city as a background for a scene, it's the lights in the *distance* that count. It's easy to light your scene; just turn on enough arcs. But how do you light the World Trade Center with its fluorescent bulbs and the street lights and the car traffic and the neon signs and so forth. The sensitivity of 5247 does it for you.

"On a feature film you have to have form and professional discipline, and you have to play first fiddle to the director's conducting. But when you're doing a film as a student or for yourself, then you should really try to reach for something. I tell my students, 'Whether it's a new way of looking at color or lighting or composition—whatever it is—it should have your stamp, your signature. It should be your own.'"

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CINEMA WORKSHOP

By ANTON WILSON

VIDEO LENSES

The most popular location production television cameras fall into the category known as ENG/EFP, respectively 'Electronic News Gathering' and 'Electronic Field Production'. These cameras invariably employ the popular 2/3" Plumbicon® or Saticon® type tubes. The latest generation of these cameras has achieved the size, weight and portability of the most compact 16mm cameras and thus an analogy between the 16mm film format and the 2/3" EFP camera should prove interesting.

The 16mm camera aperture is .292" x .402" or 7.4mm x 10.2mm which yields an image diagonal of .497" or 12.6mm. Since this diagonal is approximately 1/2", one would naturally assume that the 2/3" tube video format was actually larger than the 16mm negative area and that lenses used with these 2/3" television cameras would cover a wider angle than the same focal length lens on a 16mm camera. These assumptions are quite incorrect. Despite its 2/3" name, the target area of the 2/3" format is actually 8.8mm x 6.6mm yielding a diagonal of 11mm, slightly under 1/2". Thus the 2/3" television format is slightly smaller than the 16mm film format although the aspect ratios are identical (1.33:1).

The 16mm format is approximately 15% larger in linear dimension than the 2/3" video field. As a result, a lens of a specific focal length will cover *less* of an angle on the television camera. In other words, to cover the same angle of view on both a 16mm film camera and a 2/3" television camera, the 2/3" video camera should use a lens with a focal length of about 15% less than that on the film camera. As an example, a 10mm to 100mm zoom lens on a 2/3" EFP camera would be roughly equivalent to a 12mm to 120mm zoom lens on a 16mm film camera. The film cameraman who is beginning to use video should remember, that for a given visual perspective, the video lens will have to be about 15% shorter than one that would be selected for the 16mm format.

While on the subject of lenses, there is an entirely different philosophy toward optics in the video industry. The concept of interchangeable lenses and matched sets of fixed focal length lenses still enjoys popularity and prestige in the motion picture industry, yet the fixed focal length lens is virtually nonexistent in the video industry, as is the entire concept of interchanging lenses. The typical EFP camera is ordered with a specific zoom lens that rarely, if ever, is removed from the camera.

Although these 2/3" video cameras are virtually married to a single zoom lens they do not suffer from a lack of optical versatility. An entire new breed of zoom lens, or more accurately zoom lens "system", has been developed for the 2/3" EFP camera. For an example, Fujinon has recently introduced a 17 to 1 zoom lens with a range of 9mm to 153mm and a maximum aperture of f/1.7. The built-in 2x extender converts the lens to an 18mm to 306mm for a combined range of 9mm to 306mm or a 34 to 1 range. The lens weighs only 2.5 Kg. But that's only part of the story. An accessory 0.8x retrozoom attachment affixes to the front of the lens creating a 7 to 122mm zoom lens with virtually no loss of light and a similar 1.83x adaptor alters the zoom range to 280mm. If you have been keeping score, the combination of the basic 17 to 1 zoom lens with the built-in 2x extender, 0.8x retrozoom and 1.83x teleconverter covers a range of 7mm to 560mm, a ratio of almost 80 to 1. Both Canon and Angenieux have similar zoom lens systems for the 2/3" video format. As mentioned earlier, these focal lengths should be increased by about 15% when drawing comparisons with 16mm camera lenses.

Lastly, the interchangeability of 16mm lenses and 2/3" video lenses between broadcast quality EFP cameras and 16mm film cameras is nonexistent. The video lenses will not cover the film format. Likewise, the film lenses have much too short a back focus distance to mate with a prism type video camera which requires quite large back focus distances and correspondingly large rear clear apertures. ■

TABLE I

PARTIAL SURVEY OF THE LATEST 2/3" FORMAT VIDEO LENSES

Manufacturer	Maximum Aperture	Zoom Ratio	Focal Length Range (basic lens)	Extender	Wide Angle Adapter	Tele Converter	Total Combined Range
Angenieux	f1.8	15:1	9.5mm-143mm	1.6x 15mm-225mm	0.76x 7.2mm-105mm	1.66x 40mm-240mm	7.2mm-384mm
Canon	f1.6	13:1	9mm-118mm	2x (built-in) 18mm-236mm	0.75x 6.75mm fixed	1.5x ≈80mm-177mm	6.75mm-354mm
Fujinon	f1.9	14:1	10mm-140mm	2x (built-in) 20mm-280mm	0.8x 8mm-112mm	1.83x ≈70mm-256mm	8mm-512mm
Fujinon	f1.7	17:1	9mm-153mm	2x (built-in) 18mm-306mm	0.8x 7.2mm-122mm	1.83x ≈70mm-280mm	7.2 mm-560mm

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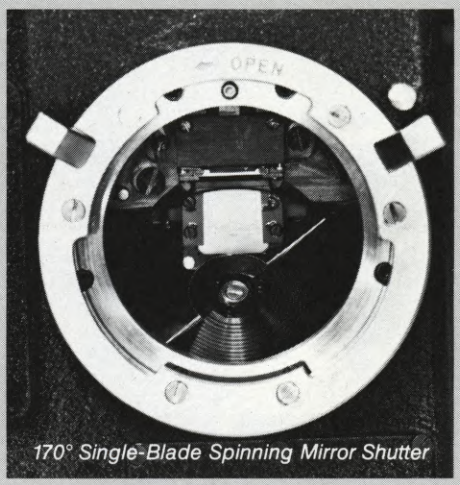
Lightweight, rugged and reliable, the "new generation" CP-16R features a belt-driven, focal plane-type, high-efficiency 170° shutter which delivers approximately 10% more light to the film plane. (And the elimination of one gear pass makes the new CP-16R even more silent in operation!)

Precision engineered and manufactured under the strictest quality controls, all CP-16R cameras leaving the factory are *guaranteed* not to exceed 30 dBA, one meter from the film plane. And, if equipped with Studio Rig, 28 dBA max!

Widest Range of Production Accessories

The CP-16R is the most versatile 16mm camera system designed for fully professional operation, with the widest range of optional important production accessories, all designed and manufactured by Cinema Products:

- *Studio Rig, with full production matte box and professional follow-focus mechanism fully adjustable to accommodate both zoom and prime lenses.*
- *CP Orientable Viewfinder, with 7" extender for convenient tripod operation.*
- *Cinevid-16 video-assisted monitoring.*
- *J-4 Academy Award-winning "joystick" zoom control, or J-5 zoom control packaged into a special handgrip.*



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THE BOOKSHELF

By GEORGE L. GEORGE

FACETS OF CINEMA

Published since 1934 by the Academy of Motion Picture Arts and Sciences as the *Screen Achievement Records Bulletin,* its successor, the ANNUAL INDEX TO MOTION PICTURE CREDITS is now being issued by Greenwood Press, starting with this 1978 edition. It is a complete and authoritative record of all films shown in the Los Angeles area during the covered year, used in determining eligibility for the Academy Awards. Each entry, fully cross-indexed, provides all the basic production data on the film itself and its producer, director, writer, cinematographer, art director, film editor, costume designer, composer, sound engineer and cast ($125, standing order $95).

A rich and thought-provoking anthology edited by Gerald Mast and Marshall Cohen, FILM THEORY AND CRITICISM assembles a wide range of essays and dissertations that permit some 60 contributors to state their stimulating views on esthetic, ideological and socio-economic aspects of cinema (Oxford U. Press $25/9.95).

Michael Malone's study of male sexuality in films, HEROES OF EROS, is a knowledgeable discussion of machismo as it evolved from Rudolph Valentino to Robert Redford. Numerous illustrations emphasize the esthetic appearance and the psychological implications of an often ambiguous virility (Dutton $9.95).

In WESTERN MOVIES, a well selected collection of informative essays chosen by William T. Pilkington and Don Graham stress the epic qualities and symbolic content of these films as significant touchstones of American culture (U. of New Mexico Press $13.96/6.95).

The Canadian film industry during its 1895-1939 period is surveyed in EMBATTLED SHADOWS, a brilliant and penetrating study by Peter Morris. His utter familiarity with the subject, his engaging style and his extensive research make this book a unique historic document (McGill-Queens U. Press $7.95).

In THE WONDERFUL WORLD OF DISNEY ANIMALS, the studio's chief animal trainer, William R. Koehler, provides a lively and fascinating report on the production problems, successfully

overcome, of such movies as *The Shaggy Dog, The Bears and I* and *Big Red* (Howell House $10.95).

Hundreds of movie performers who are also recording artists are listed in HOLLYWOOD ON RECORD: THE FILM STARS' DISCOGRAPHY compiled by Michael R. Pitts and Louis D. Harrison. This extensive directory, covering the period since the introduction of the modern LP record, provides essential information not available elsewhere in this form (Scarecrow $16).

In HAVEN'T I SEEN YOU SOMEWHERE BEFORE?, editor James L. Limbacher has listed the film/TV productions that were later the object of remakes, sequels or series in either medium. Each entry indicates the releasing company or country, year of release and literary source, and covers the 1896-1978 period (Pierian Press $24.95).

Two new volumes of legal advice have been issued by Practicing Law Institute (810 Seventh Ave., NYC 10019). Henry G. Henn's COPYRIGHT PRIMER deals with the intricate provisions of the 1976 Copyright Act, as it brought fundamental changes to its previous text ($40). COUNSELING CLIENTS IN THE ENTERTAINMENT INDUSTRY 1979 clarifies basic questions affecting the rights of directors, writers, technicians and performers in film, television and recording ($20).

★ ★ ★

CELEBRITY ROW

The coming to power in Hollywood of a younger group of filmmakers and their impact on the form and content of movies are described in MOVIE BRATS by Michael Pye and Linda Myles. Directors Francis Coppola, George Lucas, Martin Scorsese, John Milius, Brian DePalma and Steven Spielberg are credited with taking over a demoralized and obsolescent movie industry and re-orienting it to attract a new generation of spectators (Holt Reinhart Winston $12.95/5.95).

In A SCREEN OF TIME, Monica Stirling protrays the late Italian director Luchino Visconti as a modern Renaissance man, whose multi-faceted talent touched many aspects of the performing arts. This absorbing study, superbly researched and compellingly written, encompasses Visconti's work in opera, theater and cinema (Harcourt Brace Jovanovich $14.95).

A spellbinding biography of Howard Hughes, EMPIRE by Donald D. Bartlett and James B. Steele, subjects to a searching investigation the "life, legend and madness" of the eccentric millionaire. His involvement in the movies, from an auspicious debut with *Hell's Angels* to the RKO Studios' debacle, is explored at great length with many revealing details (Norton $15.95).

Intimate secrets and private matters are blithely exposed in MARILYN MONROE CONFIDENTIAL, a volume of indiscretions revealed by the late star's personal maid Lena Pepitone and William Stadiem. It unveils, not unsympathetically but perhaps unnecessarily, the weaknesses and insecurity of a lost and lonely woman (Simon & Schuster $9.95).

Dirk Bogarde offers a new installment of his recollections in SNAKES AND LADDERS, an urbane, witty and literate volume of memoirs that review his life and career during the last 30 years (Holt Rinehart Winston $12.95).

Two classical texts of established authority, Vladimir Nizhny's LESSONS WITH EISENSTEIN ($5.95) and Mark Evans' SOUNDTRACK ($6.95), have been re-issued by Da Capo Press. Nizhny feelingly describes the theories of directing and montage that Eisenstein taught in his Film Institute classes. Evans knowledgeably discusses the work methods and personalities of leading film music composers.

Some 100,000 performing arts personalities are listed in Dennis La Beau's THEATRE, FILM AND TELEVISION BIOGRAPHIES MASTER INDEX, with references to 39 source books for complete biographical sketches (Gale $35).

A welcome reprint, ALVIN LANGDON COBURN, PHOTOGRAPHER: AN AUTOBIOGRAPHY offers an opportunity to reacquaint the public with the work of a gifted pioneer who died in 1966 at the age of 85, leaving an oeuvre of sensitive photographs, 69 of which are reproduced in this engrossing book (Dover $6).

Jean C. Pigozzi, in his PIGOZZI'S JOURNAL OF THE SEVENTIES, reproduces his paparazzi style photographs of current celebrities and "in" people, revealing equally their lifestyles and his colossal ego (Doubleday $8.95).

A close associate of Presley, Wanda June Hill, in WE REMEMBER, ELVIS, pays a moving illustrated tribute to the late and still incredibly popular star (Morgan Press, 98 Headland Drive, Palos Verdes, CA 90274; $17.50). ■

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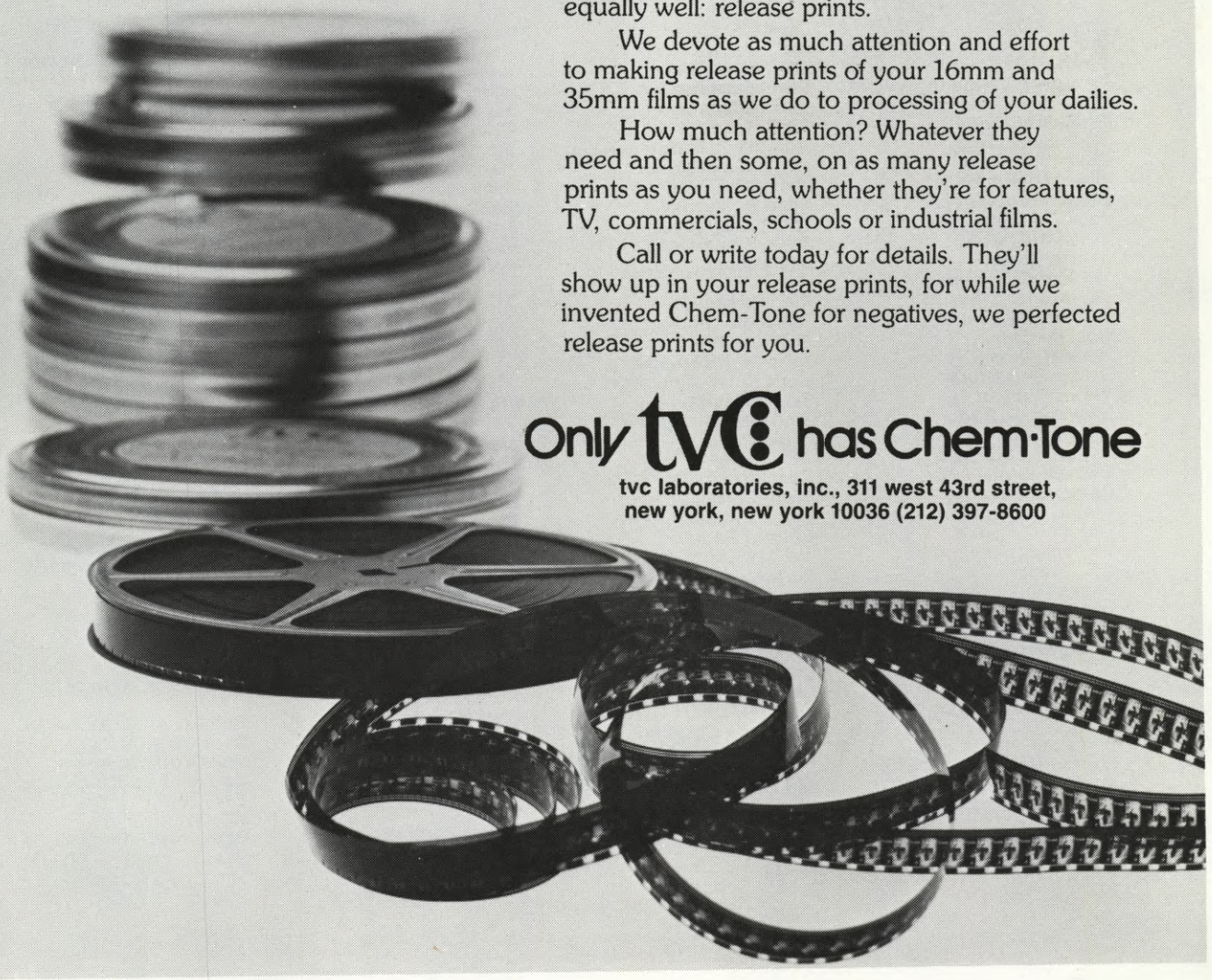

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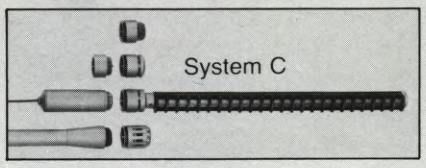

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BEHIND THE SCENES OF "ALIEN"

Perhaps not since "2001" has a science-fiction (science-fact?) feature so stunned audiences with its dramatic impact—while utilizing the art and technology of the cinema to the utmost

The fascinations of deep space provide a cinematic challenge which director Ridley Scott meets with astonishing results in 20th Century-Fox's futuristic suspense thriller, ALIEN, utilizing some of the most innovative and spectacular effects ever filmed. Produced with breathtaking imagination by Gordon Carroll, David Giler and Walter Hill, the screenplay by Dan O'Bannon plunges the viewer into a maelstrom of terror and suspense.

Academy Award winner Jerry Goldsmith has contributed a brilliant score. Associate producer is Ivor Powell, visual concepts consultant Dan O'Bannon, Director of Photography Derek Vanlint, production designer Michael Seymour, editor Terry Rawlings, costume designer John Mollo, and art directors Les Dilley and Roger Christian.

Based on a story by O'Bannon and executive producer Ronald Shusett, it tells of seven astronauts—five men and two women—working on the Nostromo, a battered commercial space-tug, far away in space and time, who encounter an awesome galactic horror. The character revelations which occur in a desperate attempt to combat this mysterious force, give rise to seven extraordinary performances from the film's stars—Tom Skerritt, Sigourney Weaver, Veronica Cartwright, Harry Dean Stanton, John Hurt, Ian Holm and Yaphet Kotto.

In filming ALIEN, director Scott worked closely with a team of artists and craftsmen to evolve a totally original concept of space. The Nostromo is a gigantic space vehicle, towing a series of three vast oil refineries, rather like a huge intergalactic truck, with three levels or decks.

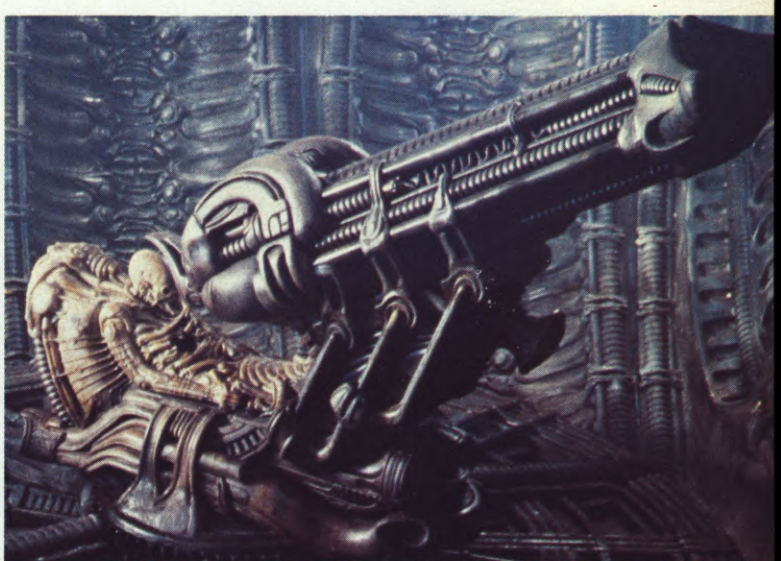
The A level houses the astronauts' living area, mess room, computer annex, infirmary, linking corridors and most importantly, the spectacular operational bridge where, amidst a veritable technological wonderland, the seven crew members sit at their individual leather seats navigating the space-tug. Production designer Michael Seymour points out that the operational bridge on the Nostromo is probably the most technologically detailed and authentic scientific movie set ever constructed.

The astronauts are surrounded by forty variously-sized television screens showing computer readouts, technological and navigational information, maps and views of the space area outside. From a production viewpoint, this information was fed to the screens via a special intri-

Continued on Page 810

(LEFT) The seven astronauts (five men, two women) who crew the *Nostromo,* a battered commercial space tug, convene at the spaceship's mess table. (RIGHT) Ripley (Sigourney Weaver) tends Kane (John Hurt), who lies in a coma following a startling attack by an alien creature from a distant planet. (BELOW LEFT) The astronauts explore the sculptured surface of the definitely "unearthly" alien planet. (RIGHT) Technicians and actors converse prior to a take.

The *Nostromo,* having parked in space the refinery it was towing, extends its claws prior to landing on the alien planet from which strange radio signals have been emanating. The main model of the *Nostromo* measured eight feet in length (which represents 800 feet in the story). In the film, the refinery that is being towed is one and one half miles across. Special techniques made it possible for the camera to track to a closeup of the model craft and actually show the astronauts moving about inside—all in one continuous shot.



(LEFT) A view through the port of the *Nostromo* as it prepares to land on the alien planet. (RIGHT) Startling view of the skeleton of an alien creature manning what appears to be a huge gun of some kind. (BELOW LEFT) With edgy awareness the astronauts make their way across the tortured surface of the alien planet, seeking the source of the mysterious radio signals they have detected. (RIGHT) Stunned by the sight of a gigantic derelict spaceship, they prepare to enter vents in its side.

"ALIEN" AND ITS PHOTOGRAPHIC CHALLENGES

Lighting a gigantic spaceship with low-ceilinged, four-walled sets and many special effects—plus the vast terrain of an alien planet, called for methods that were out-of-the-ordinary, to say the least

By DEREK VANLINT
Director of Photography

My involvement as Director of Photography on ALIEN came about as the result of direct contact with its director, Ridley Scott, over a period of years, working on advertising films.

My experience with feature films was very limited. I'd done a couple of small pictures (which I'd rather not talk about), but ALIEN was to be my first big feature. I had been asked to do features many times before, but had always walked away from them, based on the money difference between director/cameraman on commercials and the money they offer European cameramen to do American films. However, Ridley is a very talented guy and a very graphic director and has always been fun to work with. Since he was to be involved, I knew from the word go that the picture would end up looking nice and that it would do me no harm whatsoever to be involved in it.

I'm not a technical cameraman. I'm very much a "put it up, look at it and light it" person. I can't go into vast detail about how I pre-plan this and pre-plan that. In ALIEN the way everything looks is the result of discussions with Ridley—how he felt about the visual aspects of certain scenes, the lighting style that was dictated, the particular mood of the moment in relation to the sets that were involved.

The sets and corridors were all built with very low ceilings. They were four-wallers, so that meant lighting through grills or hiding lights or having in-shot lamps. I think the look of the film is due to the nature of the sets, plus the fact that I could light with non-conventional equipment—such as 747 aircraft lights, "panic" lights, a certain amount of neon and fluorescent units, and a great deal of special effects light.

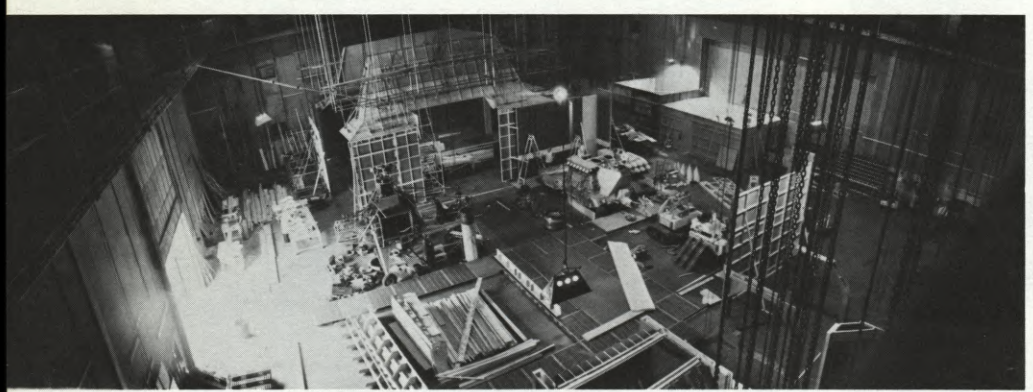
We did very limited tests, unfortunately, on fluorescents before we started shooting, and we could have done with starting two weeks later than we actually did. The Construction Manager, Bill Welch, asked for the picture to be put back two weeks, but because of bookings and distribution schedules we had to go ahead on the date that had been set. This did create some problems for me in that I had to have three crews on at once throughout quite a good part of the picture—rigging, de-rigging and pre-lighting. I suppose a lot of people have experienced that.

It was a big challenge but, fortunately, I had a good Lighting Gaffer, Ray Evans, who gave me excellent support. The two giants in England, Samuelsons and Lee Lighting, were very, very helpful to me, knowing that it was my first feature, and they did come forward with quite a few suggestions in terms of equipment and lighting that would go into certain restricted spaces.

Ridley had done one feature before, THE DUELLISTS, which had received quite good notices and, as a result of that film, he got ALIEN to do. I think producers are basically nervous at the outset about schedules and getting finished on time, so for the first three weeks or so, until they saw things on the screen, it was all a bit nervy. After the first three weeks, when I think the people back in America realized that the picture had a good style, things eased down a bit. Not having experienced big features before, I don't know whether this kind of feeling prevails on every picture, but I found it a bit more nerve-wracking than doing commercials.

The governing factor in establishing a lighting style for ALIEN was the requirement that there be three levels of light—the ship before people came out of deep sleep, a working level of light for the ship while the people were active, and then when the ship goes bananas and all of the conventional light sources are going out, one had to create the impression that the illumination was coming from explosions, panic lights and things like that.

I'm a reasonably low-light photographer under normal conditions, but I had to work at even lower levels for the neon-lit scenes. In addition, there were the low ceilings, close walls and high percentage of camera movement to be taken into consideration. We were also using two cameras during most of the picture, shooting our crosses at the same time—so, whereas I normally key from 3/4 back, it was virtually impossible to do this with the two-camera technique—especially since we were shooting anamorphic and had to worry about keeping lights out of the shot. One had to be able to sort of cheat lights through grids and use practicals that actually existed in the



One of the huge spaceship sets for ALIEN under construction at Shepperton Studios in England. (BELOW) A segment of the extremely complex and tightly packed operational bridge set, constructed on a raised platform. The enormous, incredibly intricate sets at first intimidated the author, for whom ALIEN was his first big feature, but, as he says, "Once you turn on that first light, they're just like any other sets—only bigger."

shots, but most of the time there was the necessity of overriding the fluorescents, because of the problems we all experience with mixing fluorescent and normal incandescent light.

I found a reasonable balance level between the ordinary warm-glow fluorescents and putting something like a half-blue on the incandescent lights and using a very gentle gelatine, like an 81B, to knock out a little of the blue. But dimmers and things like that helped tremendously on the incandescent lights. The flames from flamethrowers held close to faces were, I suppose, a bit unpleasant for the artists, but they were very, very good about it.

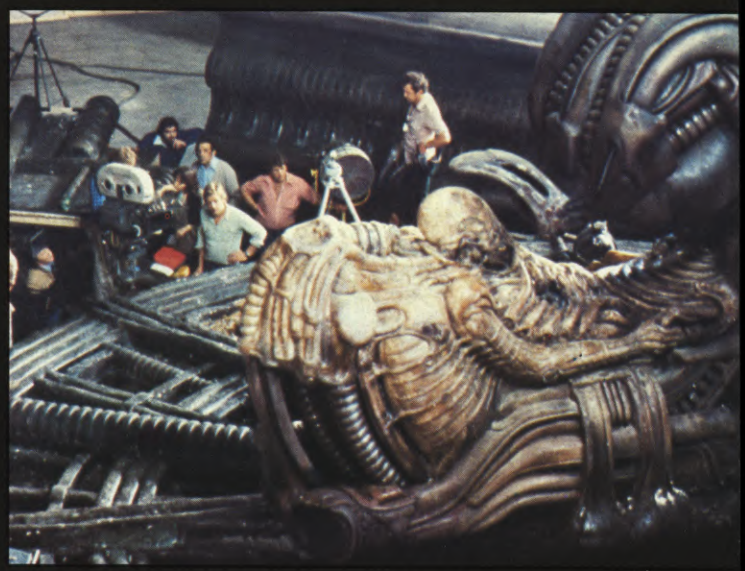
For the planet sequences, where they touched down looking for the source of electrical impulses that the spaceship was receiving, I used a couple of searchlights and a light that has become lovingly known in England as the "Wendy Light". It was designed by Bill Chitty and built by Lee's for David Watkin to use in lighting the night exteriors for HANOVER STREET. This merely meant that I could cut down on the number of lights needed to light H Stage. Several people were a bit wide-eyed when they saw how few Brutes I had on the stage for lighting the whole thing, but the effect worked quite nicely. The searchlights gave me the possibility of playing them on long shots and I don't think anyone notices too much that I panned them around a bit.

Just to kind of define the Wendy Light: It is a whole series of quartz bulbs made up in four panels. I seem to recollect something like 81 bulbs per panel, times four, and it had to be pulled up on chains. It's a pretty impressive light and it blew a lot of peoples' minds when they saw it going into the studio. As I've said, it was designed as an exterior night light and I think they lit three streets with it in one mean go on HANOVER STREET. For us this light really was a great time-saver. When you are working basically with only three lights on a huge set it does make life easier than when you have a whole series of Brutes that can keep getting into the shot.

In addition to ALIEN being my first big feature, it was also my first real experience with the anamorphic format, and it took a few days for me to get used to it. At first I hated it, because I like to box my lights in very, very tight to people—and because of the nature of the lights I like to use and the particular style I work with. However, after a few days I got used to it and loved it. Frankly, I found it very difficult, when I went back to the commercials, to get used to the smaller format. It's a bit like an Englishman who goes abroad and drives on the right-hand side of the road; it seems to be more difficult to get used to driving on the left when he goes back to England. At least, that's been my experience.

Director of Photography Derek Vanlint (behind camera) having built a thriving career as a combination director/cinematographer of commercials, had generally shied away from photographing features, but agreed to tackle ALIEN at the request of director Ridley Scott, with whom he had often worked. (BELOW) The name of the game in photographing ALIEN was "Mood", which Vanlint generally achieved through low-key, three-quarter backlighting.

There was a great deal of discussion prior to the start of filming about light levels and the synchronization of the TV monitors that were spaced all around the ship, in the mess area and through the corridors. Very early on I suggested that we should shoot the picture at 25 frames rather than 24, which would put us in a kind of automatic sync and save us messing around with shot widths. It would just be a question of bar lines. I think there was no problem at all where the PVSR camera was concerned. We were using the PVSR mainly and, at times, the Panaflex. I forget the reasons why we seemed to have to wait to get rid of bars and things, but all-in-all, it was quite efficient. One or two times, when the spaceship was blowing up, we did go out of sync



(LEFT) Adding the finishing touches to one of the most bizarre props ever seen on film—the fossilized skeleton of a grotesque alien manning a huge, gunlike mechanism. (RIGHT) The camera crew prepares to photograph the weird form from a low angle. (BELOW LEFT) Moving in for an eye-level shot. (RIGHT) Actor Yaphet Kotto shown in a corridor of the spaceship that seems to extend to infinity. Photographing him against dark, low-key backgrounds presented its own special challenge and called for a greater degree of hard light for tonal separation.

with it, but we knew we were out of sync and left it that way, because with the running bar line in the middle of the picture, it helped accentuate the panic and chaos that were going on in the ship, and that things were not as they should be—so it was quite a useful graphic.

Throughout the picture we had two operators. Ridley operated principal camera and I operated second camera. We tried to work out all sorts of tracking devices to get through the corridors with their limited widths and sharp bends, and we had a really sweet guy come in and demonstrate the Panaglide, but we felt that within our time limitations it would take us too long to get used to it, and we really wished to operate the cameras ourselves.

For our pre-title sequence, we did put tracks down and used a Fisher dolly. It looked quite nice. But most of the other movements were too fast or too wide to use tracks, so a lot of hand-holding was done. Most of the hand-holding, especially the panic stuff, was shot by Ridley, who's a bit more physical than I am and quite good at running backwards. He fell on his seat a few times, but generally it worked out quite well.

We had originally pre-planned a general set lighting for quite a good part of the spaceship, in order to avoid taking time to light each setup individually. I had worked it out with Ridley and Mike Seymour, our Production Designer, that with certain light panels and with selected sections of the ceiling covered in plastic, we would use quite a lot of overhead light coming down to blend with the floor light. However, it didn't quite work out the way we planned, because the actors, while very, very good, were laid-back types who tended to work out where they were going to stand and how they were going to make exits. More often than not they ended up in very muddy areas, and the way we hoped it would work—speeding through with one-set lighting—just didn't happen. I think it was a slight pot dream on our part to begin with, because it could never work for us that way.

Another factor that had to be considered was that we had a black actor (Yaphet Kotto) in the cast, and one obviously had to bring the light up on that sort of skin and use reflective light. It was a slightly harder quality of light than I usually like to use, but it was very, very necessary—especially in low-light areas.

Once again, being sort of new to feature filming, I was absolutely intrigued by the matte shot kind of developments that were taking place on H Stage. I had a section of the derelict spaceship 100 feet across by 30 feet high which, once we

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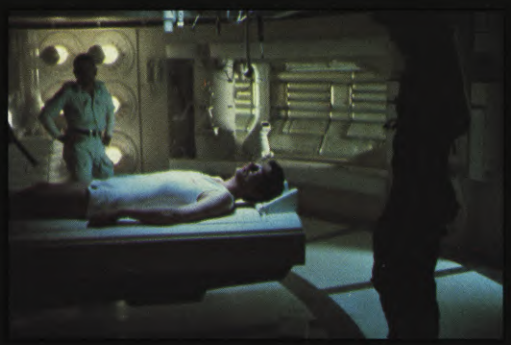
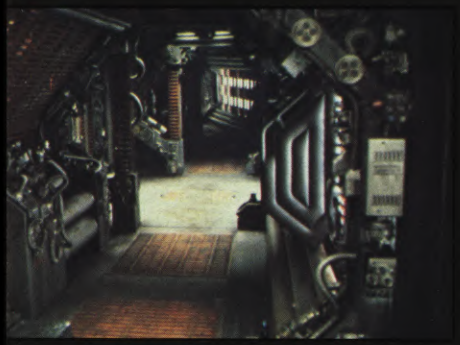
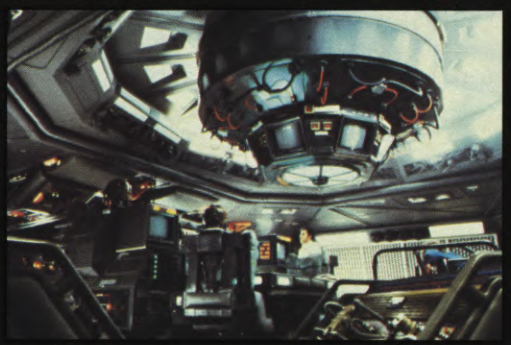
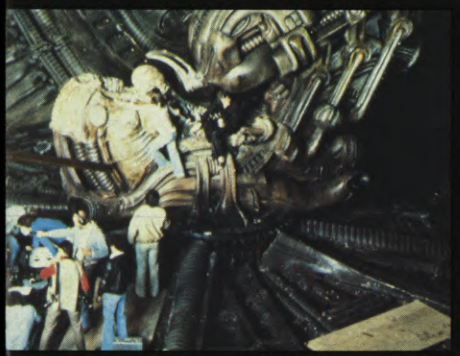
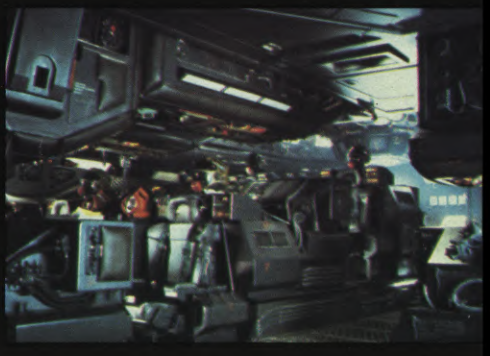



The lighting style adopted by Derek Vanlint for photographing ALIEN bears no relationship to that which he had characteristically used on commercials—heavy diffusion and lots of tracing paper in front of lights. For ALIEN he simulated natural sources and used more hard light. Basically, three different levels of light were required: (a) the ship interior as it looked before the astronauts came out of deep sleep, (b) a working level of light for the ship when the people were active, (c) bizarre and unconventional lighting (much of it keyed by explosions) when the ship goes "bananas" and starts to blow up. ALIEN marked Vanlint's first real experience with the anamorphic format, which he hated at first (because he likes to work his lights in close), but soon learned to love.





THE FILMING OF "ALIEN"

The director of ALIEN talks about the hundreds of problems involved in taking an essentially fantastic idea and making it real on-screen

By RIDLEY SCOTT
Director

When, as a director, you are offered a project like ALIEN—or any science-fiction film, really—it is an offer to start with and becomes a confrontation afterwards. The problems gradually emerge, and on ALIEN there were many, many, many of them. People ask me, "What is the single individual problem you had the most difficulty with?"

There wasn't *one*. They were all difficult—and if you had let one of those problems slide by without solving it, a weakness in the impact of the film would have been the result.

I want to emphasize that I don't think of ALIEN as an "effects" film. It's not. I had decided in advance that it wouldn't be an effects film, in the usual sense of the term. I think there is a danger in that sort of designation. All too often what people refer to as "effects films" won't stand on their own, because of weak story or weak characterizations. I felt that ALIEN should be primarily a film with a story about seven real characters—and that this would be the strength of the film, not the effects.

Now, it so happens that you can't do a film like ALIEN—which does involve effects—without making sure that they are going to be up to the standard set by STAR WARS, CLOSE ENCOUNTERS and the Big Daddy of them all, 2001: A SPACE ODYSSEY. One has to try to reach that level. The best thing that happened to Nicky Allder and his effects team was having a strong story and characters who were very strong. These elements were essential to creating a "real" film.

As for the problems—there were thousands of them, all happening together, but I feel that we had probably the best outfit I've worked with in ten years of film-making. They had the kind of reliability of someone saying, "Yes, I'll make it work by such-and-such a date." And, *Bingo,* it happens! That's pretty rare, but they were an absolutely amazing outfit. A lot of them were sort of artists in their own right, even though they were dealing with equipment and things like that. There's a kind of free-thinking in Nicky Allder's mind, for example. You can see him piecing together the problem you have presented him with. Then he'll say, "Oh, yes—I can use a little bit of this and a bit of that." I found him ordering 12 memories for a tracking dolly he had devised himself. He thinks in very simplistic terms: "I want 12 memories—one for pan and tilt, one for diagonal right, one for diagonal left, etc." There is that great simplicity that one usually finds in the great artists.

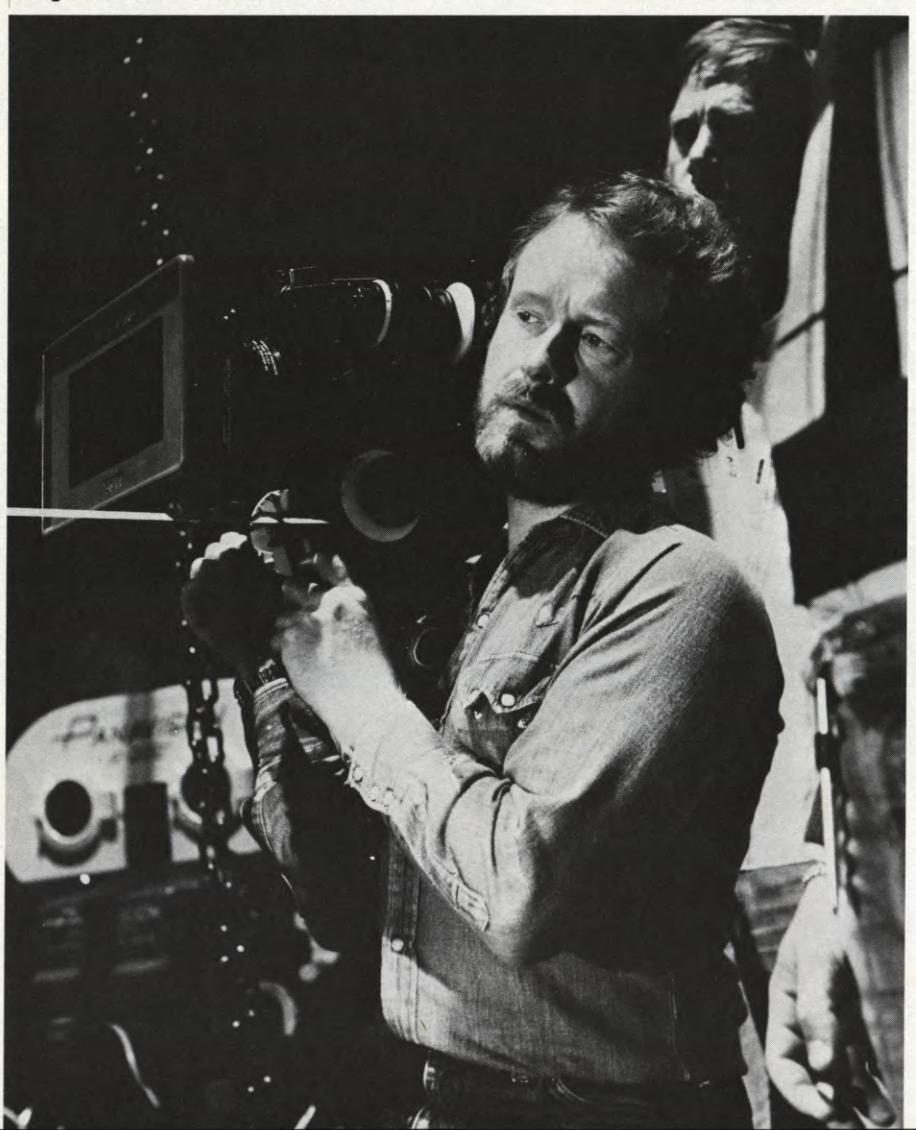
In the beginning I didn't quite know what I was going to be letting myself in for, because I'd never gotten involved with effects before. I had never really been a science-fiction fanatic, although I felt that at some point I would like to have a shot at such a subject.

When the script was offered to me, I went to Hollywood to meet the producers and discuss changes and budget. The proposed budget was $4,500,000, which was impossibly low for that particular movie. In London we had been doing a kind of cost breakdown of the script and had estimated the budget at about $13,000,000, which was far too high for 20th Century-Fox. I used to be an art director, so I had the tedious task of storyboarding the film, which took five or six weeks, while everybody else was budgeting along behind. We came down eventually to $8,500,000 and went forward from there.

The project seemed to gather momentum very quickly. Even while we were still budgeting and there was a sort of on/off feeling, we were talking to cast and things like that, because an impossible starting date—only four months off—had been established. That was ludicrous in terms of preparation, especially since we were trying to press-gang the best people, who were already sort of semi-involved with something else. But getting the best was absolutely the key to making the film.

The storyboard I did was essential, because the whole thing has an abstract

For Ridley Scott ALIEN was his second feature directorial assignment, the first having been the critically acclaimed period film, THE DUELLISTS. At the Royal College of Art in London, Scott made his first film, a short called BOY ON A BICYCLE. After completing a design scholarship in New York, he returned to London and joined BBC-TV as a set designer and television director.



spirit of intention until somebody sits down and says, "Physically we are going to do this and we are going to do that and it will look this way." You can't budget on an abstract basis—which means that, in the very early days, you've got to get very specific about how things are going to be. For example, it helps tremendously if the effects man knows how a sequence is going to go. He is able to very carefully structure around that, knowing what things he can legitimately hide.

Once we had done the overall, sort of general storyboard, there was then drawn a storyboard for each day of shooting. That day-by-day planning added up to a four-inch slab of storyboards. It was just huge. Drawing it all out like that is very tedious, but necessary in the sense that while you are drawing you are actually helping yourself think. It's like a writer with a problem who, by doodling, can focus his attention and get things flowing. I've seen voluminous storyboards on KING KONG and THE HINDENBURG, both of which relied much more on opticals and mattes than our film did, but they certainly simplified matters. In ALIEN there were no mattes or opticals or cheating—just pure physical effects, which seems to be the best way of achieving reality.

To explain my method for choosing a crew, and particularly the cinematographer, I have to backtrack a bit in my own career. I came out of BBC television where I had been doing drama series and drifted into advertising. I had found television quite frustrating because there were so many people involved in the making of it that it eventually drove me mad. You could never quite get to the point of visual perfection that one wanted to achieve. Also, working with tape, it was almost impossible to get a satisfactory result. Even if you are shooting for television, you've finally got to go to film in order to get something that is really successful. Ten years ago I entered the television commercials field, which was then relatively new in England. I worked in it for a year as an art director, then started getting offered advertising commercials to direct.

At that time—10 years ago—I had a lot of trouble dealing with what I call "traditional feature cameramen" because they underestimated the whole field of advertising film. They would, therefore, just do it and walk away from it. I found myself having to hire feature cameramen who weren't particularly interested and I got very frustrated by this. I then came across a couple of guys who were new to the field. One had been a rostrum cameraman (Frank Tidy) and the other (Derek Vanlint) had been a still photographer with a studio in Soho, but wanted to get involved with film.

Director Ridley Scott (foreground) and Director of Photography Derek Vanlint (behind camera) had often worked together previously on commercials. Scott began to direct commercials after leaving the BBC. With his own company he was responsible for approximately three thousand commercials, but was always sure that he would be directing feature films eventually.

I suddenly found it much easier working with these cameramen because I didn't have the huge pressure of a very experience feature cameraman who was trying to employ a very heavy, big feature shooting technique. I liked a more natural approach to lighting for the sake of realism.

So I've worked with Frank Tidy and Derek Vanlint for 10 years and we've gotten to know each other very well. All this time, while making advertising films, I had it in the back of my mind that I would at some time be doing feature films, and the people working with me have, in a funny sort of way, come along the same route. Frank Tidy photographed my first feature, THE DUELLISTS and Derek Vanlint, of course, photographed ALIEN.

In evolving a visual style for ALIEN (most of the action of which takes place inside the spaceship), there were certain special problems. If you are dealing with conventional rooms—whether they be Napoleonic or modern-day New York or whatever—you have a definite place that your light source is going to come from—normally your windows or the lamp on the table. In this instance there were no such sources.

I originally had the idea of lighting everywhere at once, so that I would have total freedom of movement through the corridors of the spaceship. It was a big set and I wanted to avoid the process of setup-by-setup shooting—which finally is the best way, actually. I loved the way "2001" looked, but we didn't want to emulate it by going high-key with a lot of overhead light coming through ceilings filled with plexiglass. We wanted our lighting to be very directional and, for the sake of the mood of the story, rather low-key, gloomy, melancholy, depressing.

So we made up a section of set and started experimenting. We got into a terrible tangle of variations because I wanted to use some tube [fluorescent] lights, but mixing them with tungsten

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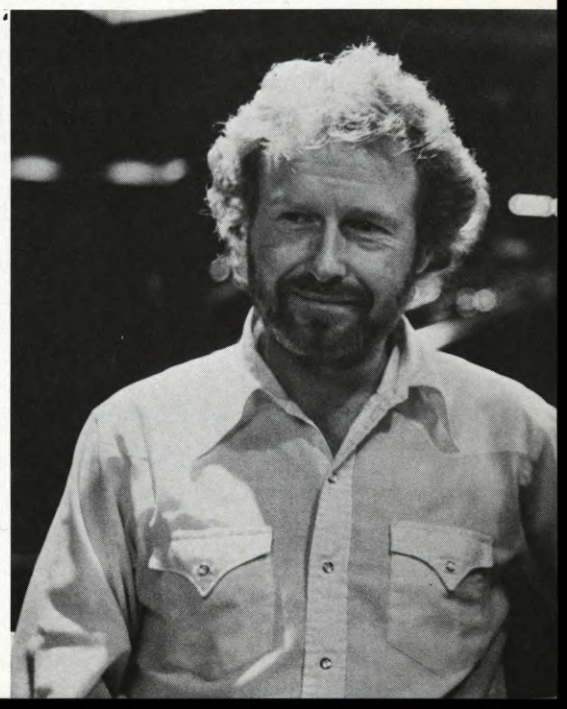
Scott is praised by his colleagues as a director of unlimited imagination, an innovator who gets deeply involved in all phases of film-making.



Color still from "The Deer Hunter" filmed by Vilmos Zsigmond with HMI light.

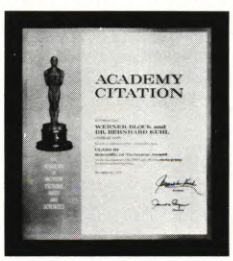
HMI Light. It's Efficient Daylight.

HMI light is daylight—it's 5600° Kelvin right from the source. Besides the convenience of daylight without blue filters and without fading, OSRAM HMI lamps offer the filmmaker and his crew excellent efficiency.

Here is one measure of HMI efficiency. An OSRAM HMI 1200 watt source provides about the same lumen output as a standard tungsten-halogen 10K, filtered to daylight. *Whereas the 10K typically needs 90 amps, an HMI 1200 watt fixture can be plugged into ordinary house current.*

Unlike tungsten-halogen, HMI bulbs convert most of their energy into light, not heat. That's why films made largely with HMI fixtures generally require fewer fixtures, smaller generators, less cabling and lower transportation costs. Consequently, there is less "set-up" time required and reduced production costs.

OSRAM HMI lamps are available in 200, 575, 1200, 2500, and 4000 watt configurations. Floodlights and fresnels made by a number of manufacturers are available at rental houses everywhere. For free technical information check with us at our toll-free number.



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The inventors of the OSRAM HMI bulb, Dr. W. Block and Dr. B. Kuhl, were honored by the Academy of Motion Picture Arts and Sciences with a Citation for Technical Achievement.

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QUESTIONS & ANSWERS

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

Q I am constructing a Super-8 optical printer from bits and pieces. After consulting Raymond Fielding's special effect cinematography manual, it stated that for a 1:1 copy ratio for any optical printer it is best to use a 103mm f2.8 lens. Is it possible to use this type of lens on just the process camera and have no lens whatsoever on the printer or would this induce grain on the dupe negative afterwards?

A When selecting a lens for an optical printer there are certain basics to consider.

First, the focal length of the lens should relate to the size of the frame or film format. For example, in 35mm professional optical printing a lens of approximately 100mm has been adopted as a standard for unit magnification (one-to-one) copying of the 35mm theatrical film format.

Second, there should be no sacrifice in lens resolution or sharpness in order to gain in exposure speed. Therefore, a flat-field "process" type lens made especially for copy work should be chosen, and this lens usually is of a slower speed than a standard camera lens.

It now follows that for Super-8 optical printing, a high grade 16mm camera lens of approximately 25mm focal length should be satisfactory, if a process lens cannot be found. A series of f-stop tests should be made to determine the proper setting for optimum sharpness in the copy.

The lens is usually mounted between the projector and camera free of both; thus giving greater flexibility for size and position manipulation. You can consider the camera as photographing the frame in the projector aperture, or that the image is being projected on to the raw-stock in the camera. It means the same either way. Frame size in the duplicate would not be affected in either situation.

LINWOOD DUNN

Q I am going to help a person make a film in which there will be some interior shots in a gym. The camera would be mounted on a dolly because he wants to "dolly in" from probably 30 ft. to a closeup.

I am going to use an old Bolex 16mm with a 25mm lens and a separate viewfinder. Starting the "dolly in" from 30 ft., how can I be sure to keep the subject framed properly in the finder?

The scene will be subdued lighting. The film will be color negative 7254 ASA 100. Can I take a meter reading based on 200 ASA and have the lab boost it 1 stop? What I am trying to do, I think, is to have a small lens opening in subdued lighting so that I can "dolly in" without having to follow focus.

A It appears to me that you are asked to do a complicated shot with equipment that was not designed for such use. You do have a parallax problem. You could previously line up the camera for the closeup and note the amount of displacement in the finder. When filming the scene you would have to gradually allow for parallax displacement as you move in to the closeup. Also, you should change focus as you move in, otherwise the lack of proper focus will be apparent.

I presume the lighting will all be overhead. Therefore, it would be advisable to mount a small 100-watt lamp above your lens to supply some fill light as you move.

You can have the lab boost the development time to gain exposure. It is advisable to shoot a few separate test scenes with the available light and have them developed by the lab at different forced times to determine the correct exposure.

As the end result is the answer, perhaps it would save your friends money to rent a reflex 16mm camera for the time you are filming.

CHARLES CLARKE

Q I have in my possession a "Universal" brand, hand-crank 35mm motion picture camera. I am trying to date this make of camera as to when it was manufactured and/or the years it was in use. Also, is there any interesting history behind it?

A The camera pictured in the photographs you sent was a war baby from World War I. First manufactured in 1914 in Chicago, Illinois, it enjoyed some popularity in its early years, mainly because of the unavailability of competitive equipment.

The camera continued to be sold until 1920, but parts were manufactured up until 1928. This piece of equipment filled a need, but the pros who could afford to bought more expensive equipment also being made in this country. This outfit sold for $300; the tripod was extra.

Between two and three hundred of your model were sold. The camera came with a Bausch & Lomb 500mm lens. The magazines were made of metal and could hold 200 feet of film, which seemed to be a popular length at the time.

KEMP NIVER

OUT-OF-THIS-WORLD PRODUCTION DESIGN

Carefully avoiding any conscious imitation of illustrious predecessors in the science-fiction *genre*, the designer and his team create fantastically imaginative visual elements

By MICHAEL SEYMOUR
Production Designer

I suppose the most interesting challenge of designing ALIEN was the fact that one wasn't working from any real reference, in a sense. It was not like one was trying to recreate a medieval castle or a Georgian house. We were dealing with something which, as yet, doesn't really exist, so there was a certain amount of "fiction" in this science-fiction exercise. At the same time, what everybody in the group tried to do was create a sort of reality, so that, hopefully, the audience would actually believe that they were aboard this spacecraft.

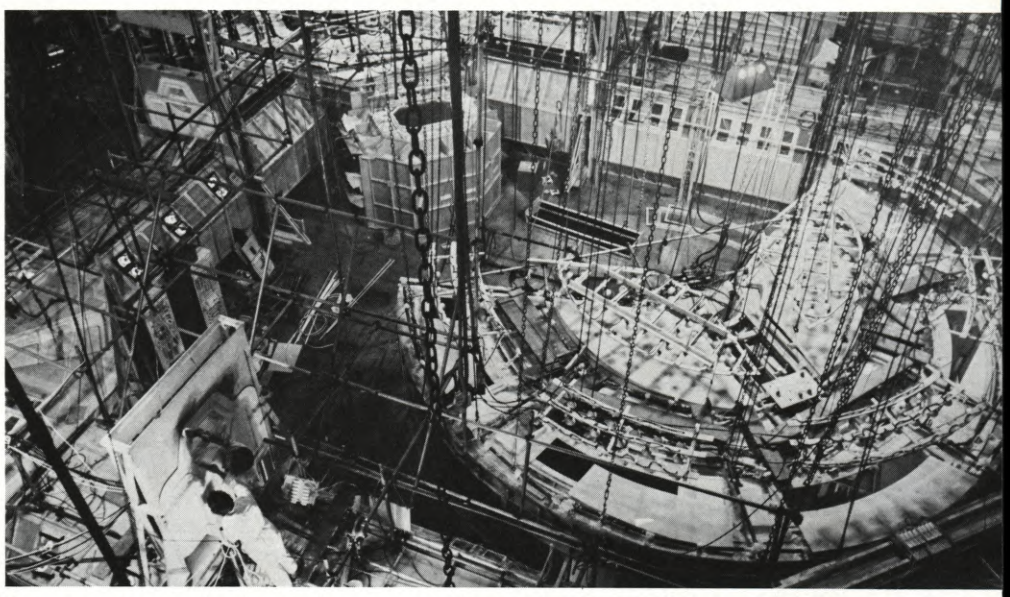
We tried to create a sort of intergalactic supertanker aboard which people lived and worked and slept their way from one galaxy to another for maybe four or five years at a time, collecting ore and oil and minerals, potentially for huge profits. But basically they lived on this craft and maintained it. At the same time, they relaxed into an easy sort of casualness, as people might well do on that kind of trip. Their clothes were sort of casual and they were all a tiny bit greasy and they had relaxed relationships with one another.

The ship itself had to tend to reflect all of this. There were levels of it that were kind of dirty and greasy and we hoped that the audience would feel that they were in a dirty old engine room where there was steam escaping and that, by doing all this, we could present a sort of believable environment.

We were also trying to convey the idea that the spacecraft was a very huge piece of machinery which, in turn, was towing an even larger piece of machinery behind it, consisting of a vast collection of derricks and oil refineries and such. With that in mind, we set about creating our own sense of geography—a sort of three-deck ship. The top deck was the place where they lived, slept, ate, were doctored, and from which they piloted the ship. The control room was located there. That was the first level, and it added up to a very elaborate composite set.

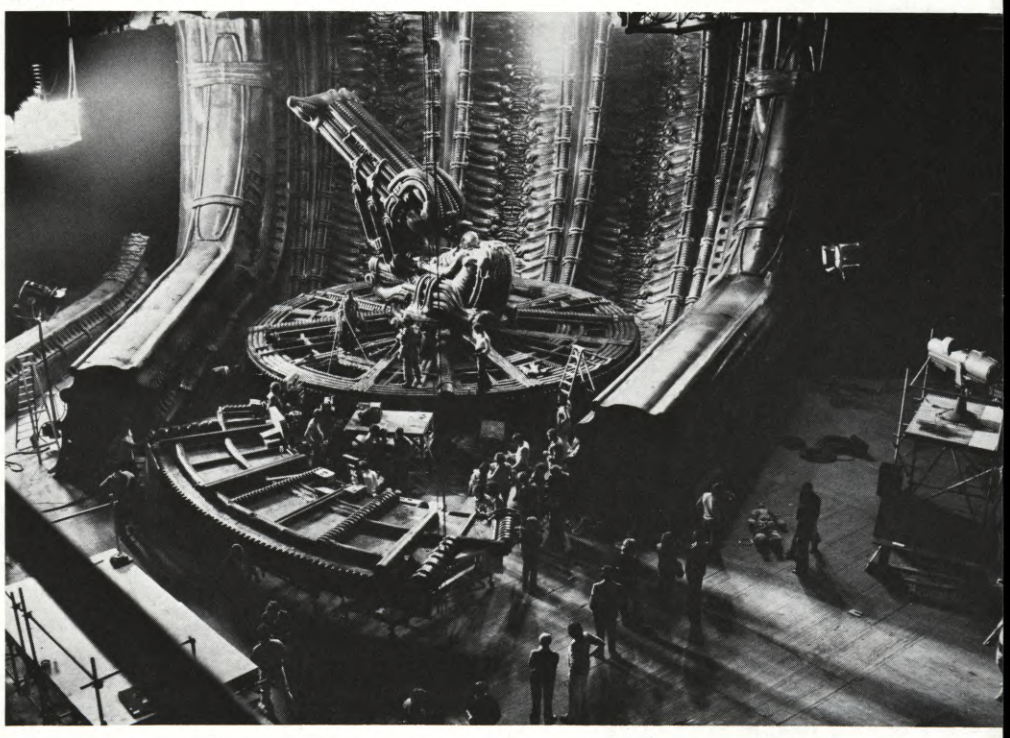
The next level was supposed to be one of general technical maintenance, in the sense that the engine room was there (where two of the characters spent much of their time).

The third level was a different kind of maintenance area which contained a sort of garage full of space vehicles. There was also a compartment into which one



Shown under construction is the enormously complex "A Level" (top deck) of the intergalactic space-tug *Nostromo*, housing the astronauts' living quarters, mess room, computer annex, infirmary, linking corridors and operational bridge. It was built on a large Shepperton Studios stage as a single composite set, because the intention was to do a number of long tracking shots down the corridors, arriving at various areas along the way. It was like a maze and, once inside, visitors sometimes had difficulty finding their way out.

Perhaps the most bizarre set was this full-size section of the derelict spacecraft found by the astronauts on the alien planet. At its center is the fossilized skeleton of a grotesque creature seated behind a weird contraption that appears to be some sort of gun. It is soon after this discovery that the astronauts have their too-close encounter with the ultimate horror.



of the hydraulic legs of the ship was folded.

As I say, we had to sort of create this sense of geography for ourselves in order to provide an orientation for working with it, but I wondered, as I viewed the final film, whether the audience, not really conditioned to our sort of thinking about it, would see the geography quite so clearly.

Having decided on those elements, we tried to produce within the set a very detailed and complicated feeling that one was inside a piece of extremely advanced technology. We built it as a large composite set, because the intention was to do a number of long tracking shots down the corridors, arriving at various points like the mess hall, the auto dock area, the hyper-sleep area (where we first see the characters wake up) and the bridge, which was a really complicated place where they were all sitting.

We built it as a four-wall set, and it was a complete set once you got inside it. People who came onto the stage from the outside saw a lot of wood and bits and pieces, as with all sets—but once they got inside they often couldn't find their way out. It was like a maze.

The filming of ALIEN was a very interesting and exciting challenge and we all worked very closely together on it. Ridley Scott, as a director, is a great innovator and, as such, he demanded a sort of innovation from all of us. We all found ourselves, in a sense, stretching out unexpectedly in directions we hadn't even thought about—of necessity, but rightfully so.

Ridley, cinematographer Derek Vanlint and I worked very closely together. We had a constant exchange. I was concerned with Derek's problems and he was concerned with mine. I was especially cognizant of his lighting problems and we had many discussions about them. I would say to him, "We've designed the set this way and this way, but I have allowed, hopefully, for several features that will be helpful in lighting." And he would say, "That's very good, but it would be marvelous if you could manage to do so-and-so . . ." So we would work at exchanging suggestions.

Ridley is a bundle of ideas and he spouts off about them to everyone who works for him. It was a very good exercise, and it didn't just extend to us three. There was, of course, the special effects group—marvelous people to work with—and everybody else on all levels. It was a very animated, hard-working, close-knit group of people and, in that sense, ALIEN became a very exciting project.

It was like an organic growth. We began with one set of ideas and let it grow into others. We allowed it to grow and grow so that it was a constantly evolving thing. I mean, if we were still shooting, we would have evolved even further, but there had to come a halt. It was a very exciting way of working.

In approaching the filming of ALIEN we were very concerned about avoiding any clear or direct influence from previous space productions. We took the trouble to show ourselves 2001: A SPACE ODYSSEY a couple of times; we saw STAR WARS and CLOSE ENCOUNTERS each a couple of times, and such things as SILENT RUNNING. Our objective was to avoid as much as possible any clear reference to any of them. Of course, this was difficult, because there are certain factors, certain idioms of supposed

Continued on Page 804

Production design sketches for the derelict spacecraft by Swiss artist H.R. Giger. Because director Ridley Scott and Michael Seymour had seen his work and much admired it, they invited him to become involved in the whole concept of the alien creature and its spacial environment (including the spacecraft). It was important that the alien itself and the world in which it existed be as remote as possible from what humans would create. This involved the construction of many models of all sorts before the right combination was achieved.

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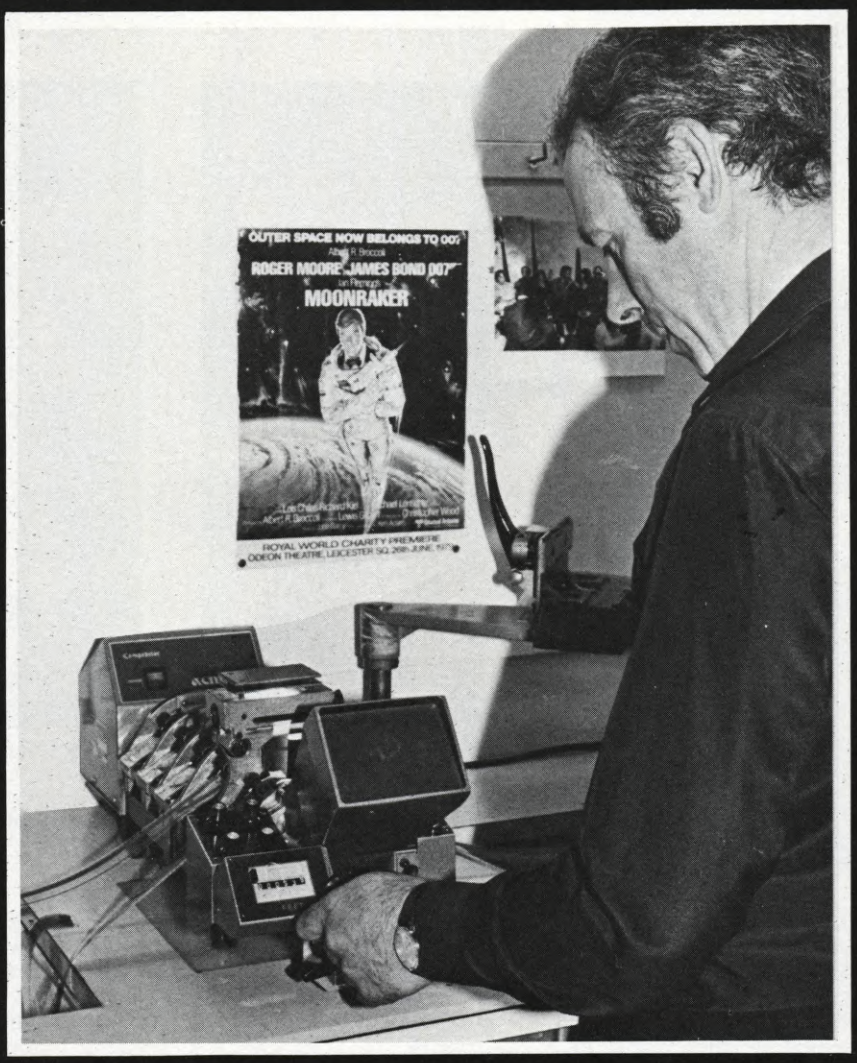
MOONRAKER EDITOR JOHN GLEN SAYS: "Our Acmade Compeditor 35 has been invaluable in helping us meet the very tight deadline on 'Moonraker.' I consider it a very important cutting room accessory and on a location picture such as ours, its easy transportability has been a real asset. My staff have found it excellent for syncing up dailies, fitting wild tracks, post sync and laying effects and music for re-recording.



John Glen with his Compeditor 35 in the Boulogne Studios in Paris during editing of "Moonraker."

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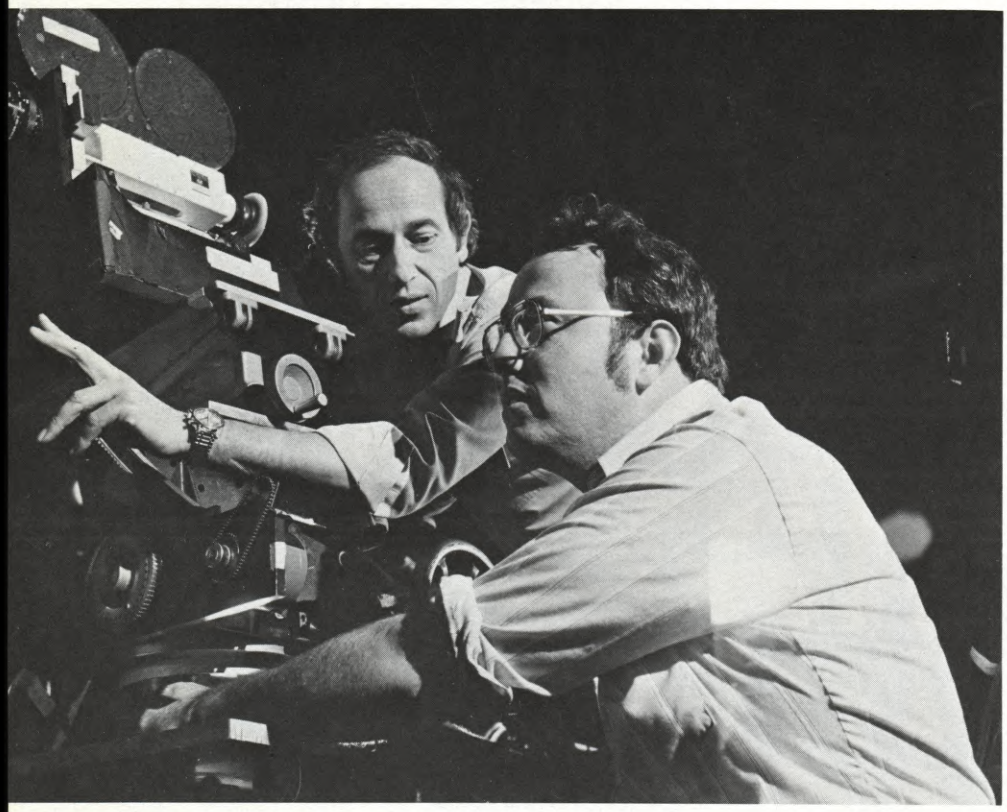
SPECIAL VISUAL EFFECTS FOR "THE CONCORDE—AIRPORT '79"

How a recently developed method of controlled motion photography that adds a new dimension of realism to film-making was used to shoot thrilling sequences of the supersonic Concorde under attack

By ABE MILRAD
Supervisor of Special Visual Effects

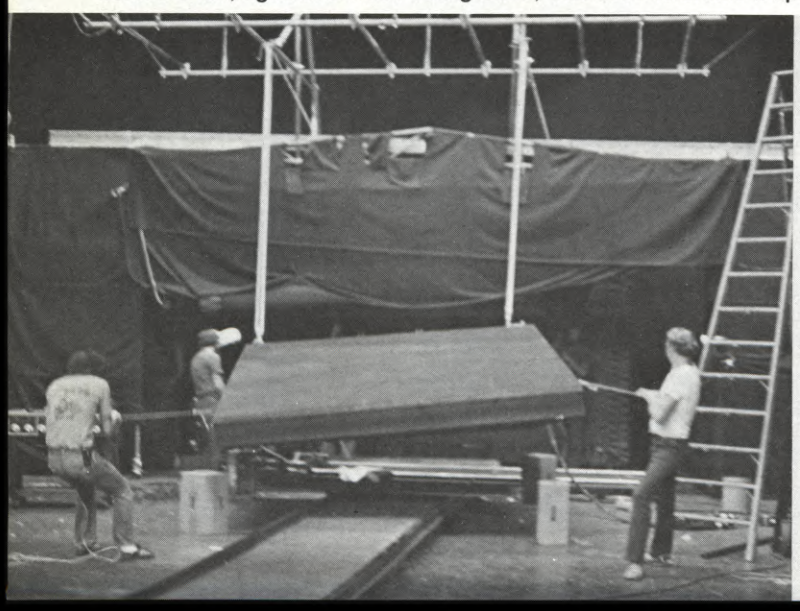
The energy of the Universal Studios Special Effects Facility is contained in a huge converted warehouse in North Hollywood, California. You often walked in before the sun had cleared the surrounding mountain peaks and left the building with the moon well established and you hadn't been aware of the ongoing life transition outside. You lived in a self-contained world and wondered, "Where did the last twelve hours go?" Only your mind and muscles knew where it went. It went into a microcosm of action and, in retrospect, you compared it to a beehive. A beehive with its close to one hundred technicians, cameramen, modelmakers, editors, production assistants, designers, engineers, etc., with one common thing in mind: a team effort to get the final optical composite out. When you look at a finished scene with its beauty and complexity, you wonder how it consumed all this energy. But the fact is that it did, and deservedly so.

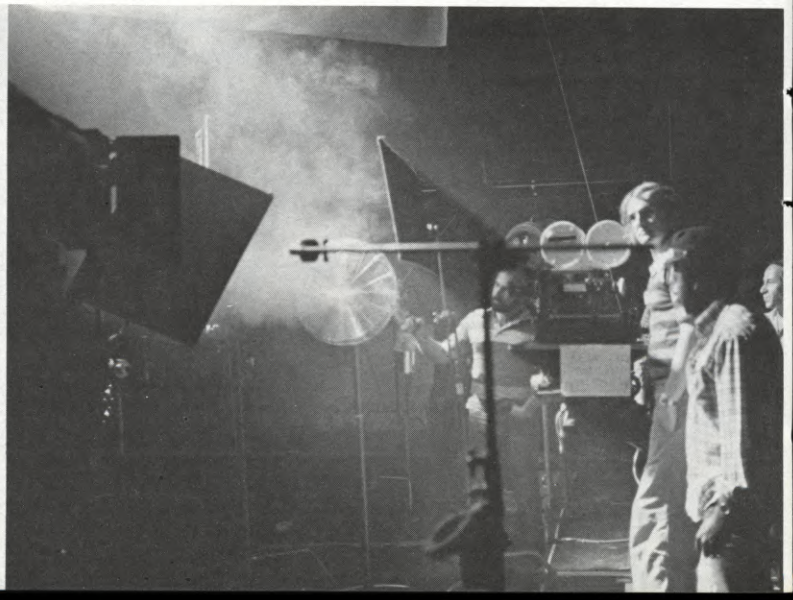
It is hard sometimes to visualize in color while you're surrounded by four walls of black duvateen. But this is, in fact, the heart of the facility—the four stages, each manned by its own crew of dedicated artists who interpret their tal-



Concorde model is suspended from a rig allowing for simultaneous changes in roll, pitch and yaw attitudes, as well as rotation and arc movements.

(ABOVE LEFT) Camera operator Alex Funke and Abe Milrad discuss programing details for a controlled motion move of Concorde model to be seen in THE CONCORDE—AIRPORT '79, a Jennings Lang production for Universal, directed by David Lowell Rich and photographed by Philip Lathrop, ASC. The Mitchell camera is mounted on a gear head driven by stepping motors. (BELOW LEFT) The huge "chicken coop", specially designed to provide sky fill effect (and weighing 250 pounds) is maneuvered into place by the skillful crew. (RIGHT) Smoke behind a fan, against a black background, was used to create a speed frame of reference of fast-moving clouds in front of the plane.





ent through lenses driven by computers on non-real-time photography. Here is where it all begins and the optical department is where it all comes together. In between is a mixture of talent, heartache, disappointment, and laughter—but above all, the pride in being part of what will eventually end up on the screen.

THE CONCORDE-AIRPORT '79 was the most difficult assignment I have had in my 14 years as a filmmaker. When I graduated from film school, I had no idea that someday I'd be almost completely dependent on an electronic computer to finally interpret the look of a scene I had designed. Unlike the freedom you have filming the special effects involving a space-science-fiction film, where anything you suggest visually will be accepted, in working on a real airplane chase sequence you are constantly pressured by the pre-established visual knowledge of the audience.

After the great success of the special effects for STAR WARS by John Dykstra and CLOSE ENCOUNTERS by Doug Trumbull, whom I consider to be a genius and with whom I had the privilege of working, the use of the motion control system has become a crucial vehicle in this field. In spite of its sophistication, the motion control puts out only what information is fed into its computer, so that, again, the human talent becomes an invisible interpretation through it. Working in special effects is like walking in a mine field. It demands absolute concentration and study. If you take your mind off it for a split second, it will blow up on you.

There are four major visual effects sequences in the story with which I had to contend. The first one in priority involved a pirate F-4 Phantom jet armed with four heat-seeking air-to-air missiles. The jet leaves the French coast flying at a very low altitude to avoid radar detection. It first skims the hills, then flies 75-100 feet above the water to intercept and shoot down the Concorde on its way to France. That is immediately followed by a 26-scene chase sequence between the Concorde and the Phantom jet.

The next sequence was to establish the menacing black drone missile. The capability of the fatal warfare missile is displayed at the testing site of the industrialist by launching an orange remote-controlled target plane, which is then shot down by the programmed drone missile. This was to show that in spite of the maneuvers by the target plane, it could not escape the drone missile and is eventually hit.

The third sequence involved the attempt by the villain to shoot the Concorde down by diverting a drone missile from its

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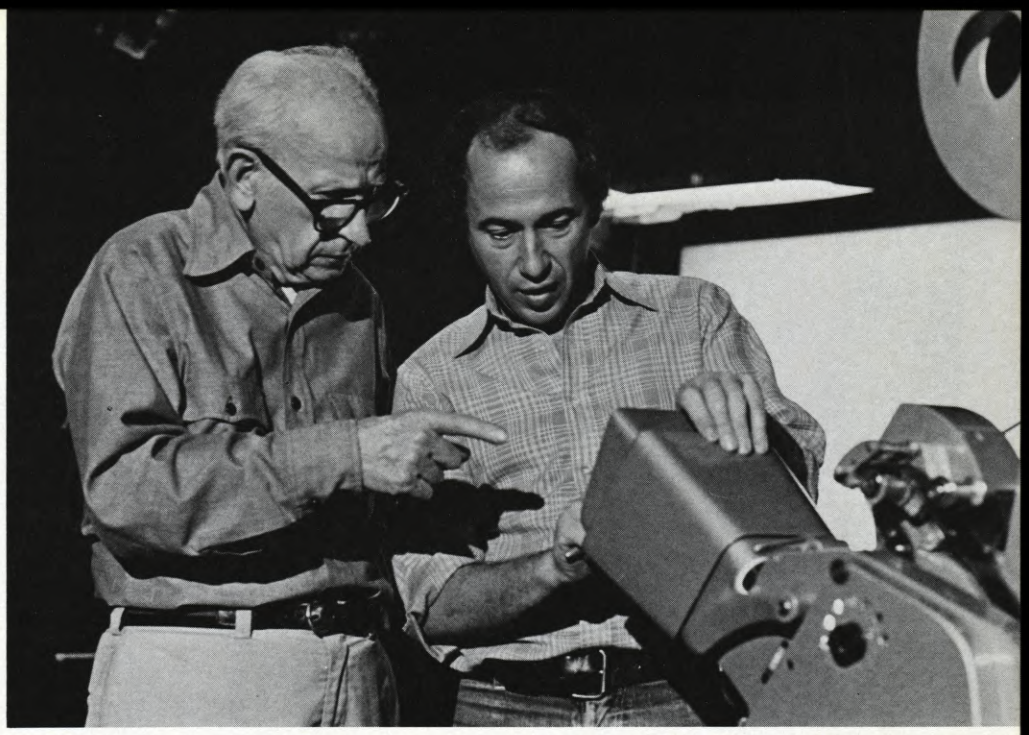
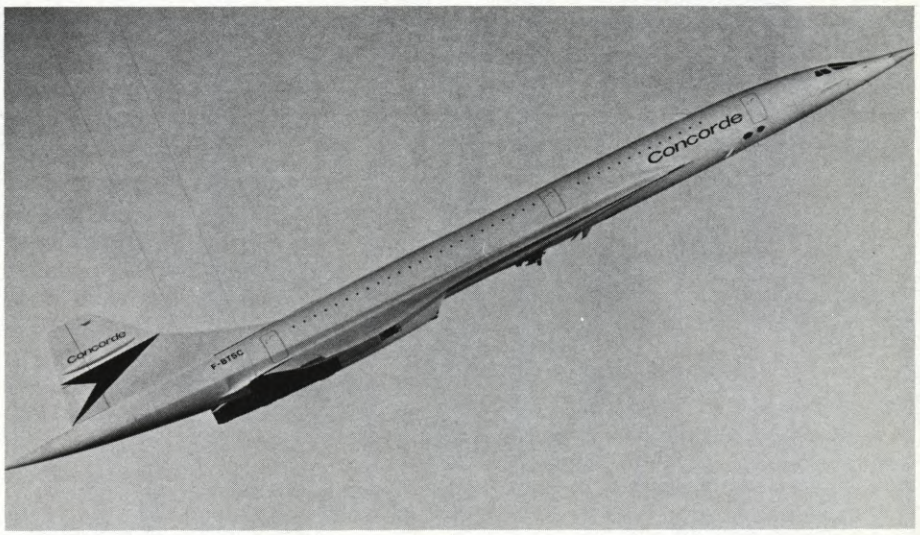


Special Effects Director of Photography Peter Gibbons and Abe Milrad discuss the background for a fly-by shot in order to determine the key light position. After 14 years as a film-maker, Milrad, who started to build model airplanes at the age of 12, had the opportunity to combine his airplane model hobby and camera craft on this motion picture.



(ABOVE) The elegant Concorde model at its first attitude for the "falling leaf" spinout sequence. (BELOW) Cinematographer Pete Gibbons and Abe Milrad look on as assistant cameraman Chuck Schumann adjusts the electronic controls for maneuvering the Concorde model through its intricate gyrations.

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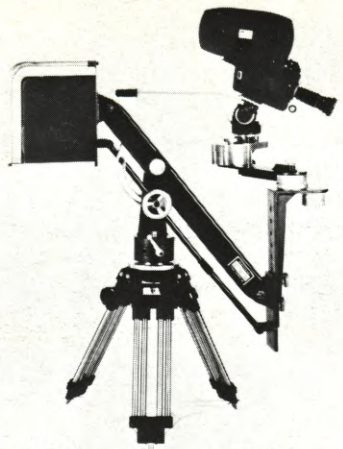
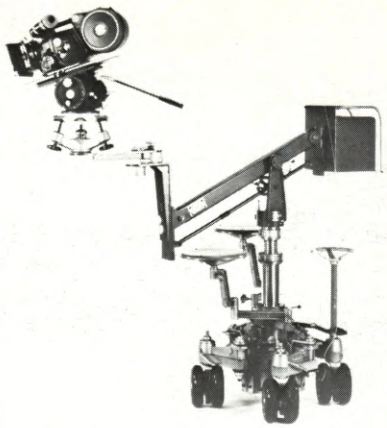
Mini-Jib



Mini-Jib Arm on.....Tripod



Mini-Jib Arm on.....Elemack Dolly

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A volatile director/cinematographer team talks about the methods used for garnering top honors in the competitive commercials field

With millions of dollars in sales riding on TV commercials, every national advertiser strives to hire the most creative and skilled agencies, directors and cinematographers. Yet, each year, certain advertising campaigns rise above the rest, launching new products, and helping established brands become firmly entrenched.

Many of the spots produced by New York City-based director Bob Giraldi have established themselves in the latter category. In less than eight years as a television commercial director-producer, Giraldi has garnered more than 150 major awards, including an average three to five CLIOS per year. In 1978, Giraldi commercials, including the *"Lite Beer from Miller"* series, earned seven CLIOS.

Giraldi's track record is made even more phenomenal by two other facts. First, he produces more than 100 commercials a year, an almost unheard-of pace. Second, unlike most of the top directors, he has worked with just one cinematographer, Eddie Barnett, for more than six years.

American Cinematographer's correspondent sat down with both Giraldi and Barnett during a break in shooting a spot in the financial district headquarters of a major New York City bank. The two men shared their thoughts on the making of their favorite commercials.

QUESTION: What is it about the Bob Giraldi style that makes his commercials award winners?

GIRALDI: When I think of the top directors in the field, I am the only one who does not have a style. After we are given a creative concept from an agency, Eddie, and I, and everyone on my staff go to work to see how we can make that piece different from everything we have done before. We may work all day to get the lighting, direction, or choreography just the way we want it, and then one of us will come up with an idea that works, and we will start over.

QUESTION: You're able to remain fresh without a constant influx of new people to your organization?

GIRALDI: We do add new people all the time, but the backbone of my staff—my partner Phil Suarez, Eddie, Dick Ashe, my assistant director, and Danny Kirshoff, my property master, have all been with me six years or more. That is something of a unique situation in this industry.

QUESTION: Charlie Chaplin worked with Rollie Totheroh for decades, but today directors seem to change cinematographers frequently. What makes you two different?

BARNETT: The situation is even more unusual because Bob and I are both strong-willed, volatile people with a strong creative urge. I joined Bob when Giraldi Productions was formed because I wanted to get away from table tops into doing the dialogue and reality-oriented spots Bob specializes in.

QUESTION: How did you each get into television commercial production?

BARNETT: Cinematography seemed to me to be a perfect marriage of my technical and creative interests. It was a lot more appealing than many other careers. I put together my own curricula at NYU until I had learned enough about filmmaking to try and break in. I met Bob on my third job, and we clicked.

GIRALDI: I began as a commercial artist and designer, moved into print advertising as a creative director, and was lucky enough to work with Young & Rubicam, and Jerry Della Femina during their rapid growth in television commercial productions. After I directed two award-winning campaigns—for H. R. Block and WABC Eyewitness News—I decided I had found my calling and phased out my print work.

QUESTION: If your work doesn't have a specific style, what does tie it together and brand it as a Bob Giraldi production?

GIRALDI: I like reality—I never do tabletops or fashion work for that reason. Probably my commercials emphasize a human quality, above all. Rather than try and sell the product, I sell the people, and let their connection with the product rub off favorably on the sponsor.

QUESTION: Could you give an example?

GIRALDI: The Miller Lite beer series is a good example. We used Bubba Smith, Don Carter, and then George Steinbrenner and Billy Martin just before and after their feud. We placed them in human, humorous situations. These people were not actors, but when Bubba Smith tore the top off that can, you would have thought he did it every day. A lot of my commercials are not exactly what they seem to be. Two examples come to mind. For the Chemical Bank "Neighborhoods" series, we present a series of vignettes that seem to be candid shots of a variety of neighborhood activities. Yet, each of those scenes was carefully choreographed. The second spot was a promotional piece we did for WLS-TV in Chicago. There were some touching moments featuring a blind, elderly couple, and I think the only reason the actors didn't earn a CLIO of their own

Director Bob Giraldi (center) instructs one of his actors in how to get off an elevator. Giraldi, who produces more than 100 TV commercials a year, winning three to five CLIO awards annually, is proud of the fact that he has no specific directorial style, but strives to make each assignment different in approach from everything he has done before.

was that the judges probably didn't realize they weren't blind.

QUESTION: Tell us more about those two commercials.

GIRALDI: For "Neighborhoods," we wanted to capture some of the chemistry of the different neighborhoods of New York City. Della Femina brought us a one-minute storyboard that called for shooting in locations all over the city in two days. It is a long trip from Harlem to the lower east side. We had to carefully work out the logistics to allow shooting in three or four locations each day for two days.

QUESTION: You choreographed neighborhood activities all over New York?

BARNETT: Yes. Festivals, street parties, games. Yet, the philosophy of the commercial was that the viewer was eavesdropping, or looking at the scenes through binoculars.

QUESTION: Watching the goings-on, rather than part of them?

BARNETT: Right. I used a Panavision camera and lenses from 14mm to 600mm. I also used Eastman color negative II film 5247, which we use for most of our work.

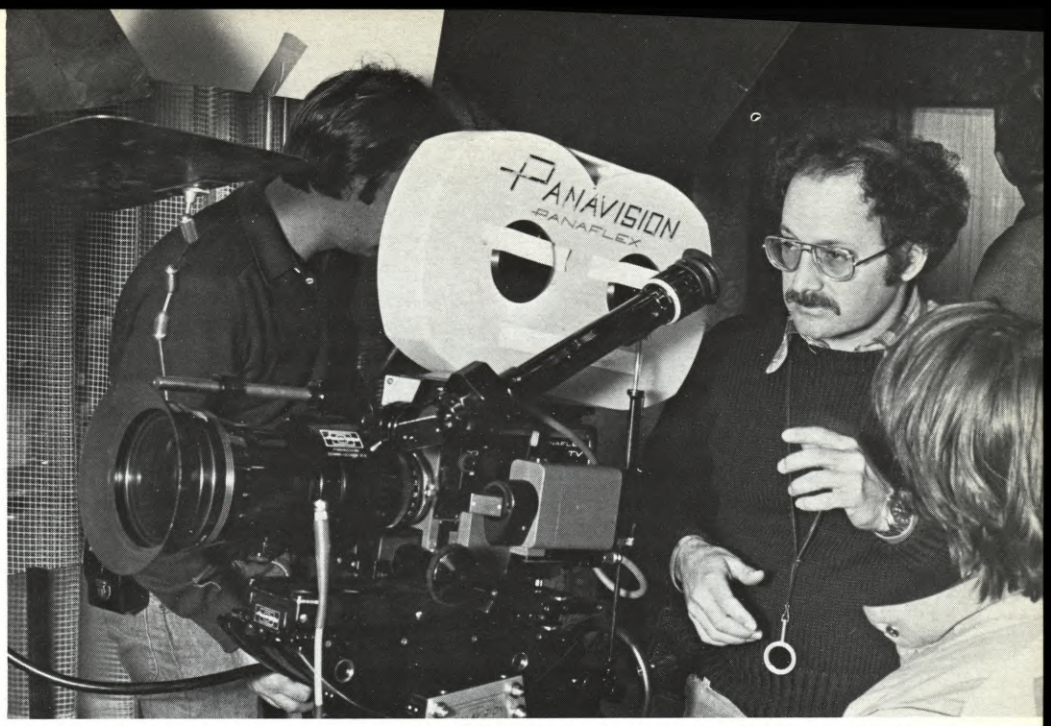
QUESTION: You certainly didn't get a feeling of distance with the wide-angle lens, did you?

BARNETT: We tried for a long-lens look even when we used the wide angle. I think you can cut back and forth from one lens to the other with no difficulty if you know what you are doing.

QUESTION: What techniques do you use to make one lens compatible with another?

BARNETT: We maintained continuity of movement from scene to scene. I use less filtration on the longer lenses. We have got a fast 300mm Panavision lens that is extremely sharp. We can use that with footage shot with shorter lenses just by building up the filter packs of the shorter lenses. Fog filters make the shorter lenses look as if they are shooting through the same amount of atmosphere as the long lens at a greater distance. We used regular fog filters, not low-contrast glass—it makes the image too mushy. We are not into heavy effects.

GIRALDI: Right. Eddie comes up with footage that is tasteful and pretty, but not so blatant that the film comes first and the concept second.



Director of Photography Eddie Barnett, the only cinematographer Giraldi has worked with during the past six years, gives some last-minute instructions to one of his assistants. (BELOW) The lobby of a large New York bank was used to film several scenes for a recent commercial. A Panavision camera off to the left is rolling for a take of a typical counter transaction.

QUESTION: How did you light the *"Neighborhoods"* series?

BARNETT: We tried to choose the time of day for each location where we wouldn't need any lighting at all. We took a few cards, but I don't think we used them. The color negative has enough speed for situations like that. Even "pushed" one stop, I think the colors and grain are about the same. When I first used the film, I thought it was too sharp, but then I changed my mind.

QUESTION: What was that?

BARNETT: I began to see that what Eastman Kodak Company had given us was like a bowl full of marbles: they are all there if you need them. What I do when I shoot is decide what effect I want, and then take away a few marbles to achieve it. I use filters, lighting or other techniques to bring the sharpness down to where I want it. I discovered it is a lot easier to do that than to put in resolution that isn't there in the first place.

Continued on Page 830

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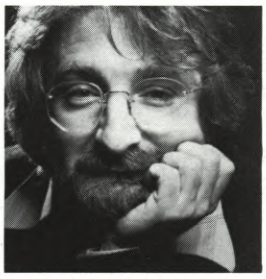

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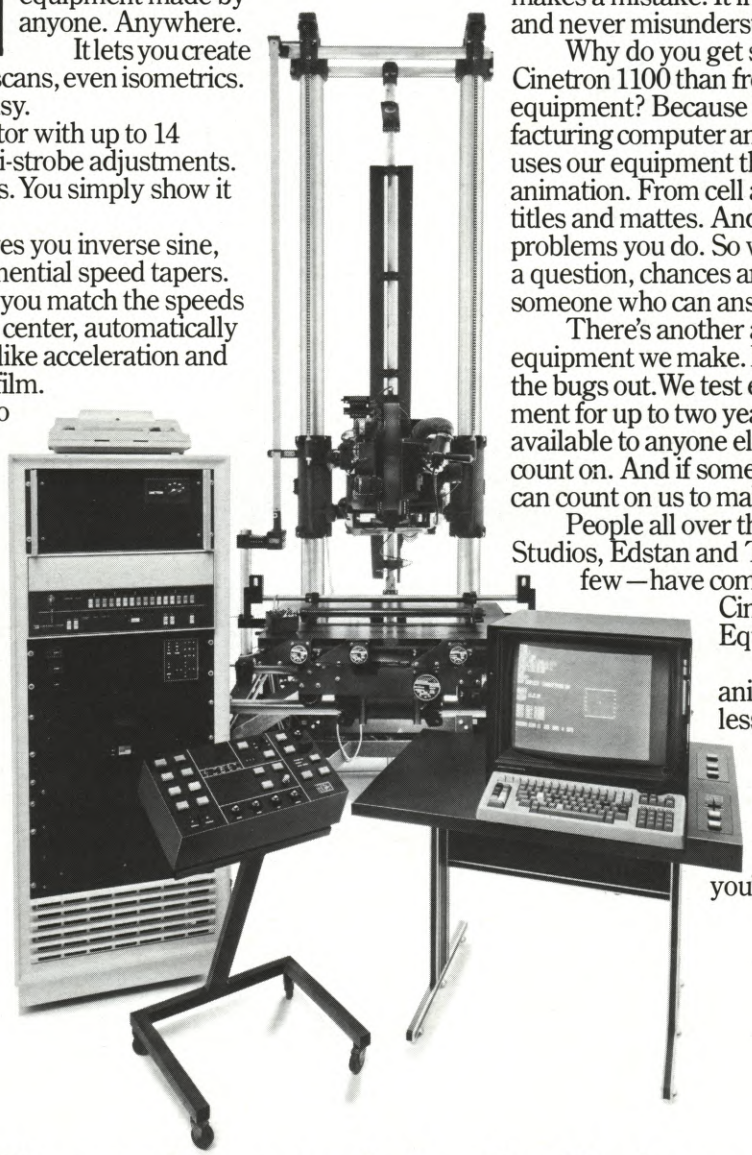

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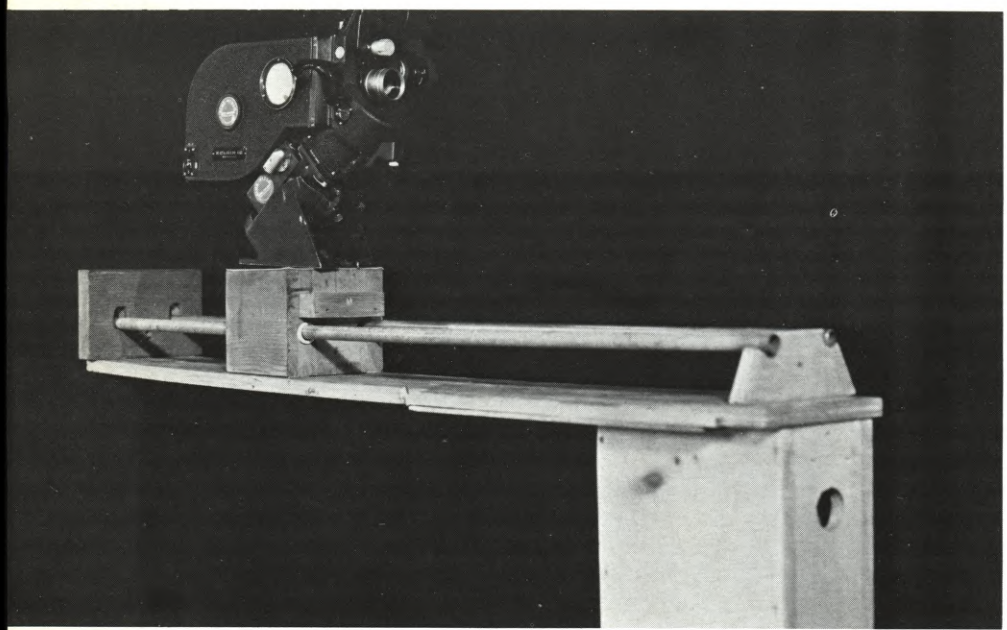
TRACKING SHOTS INSIDE A MOVING AUTOMOBILE

A fanciful script about a couple trapped inside their car leads to the development of a simple, but ingenious, piece of equipment for filming required car-borne dolly shots

By TOM FREI



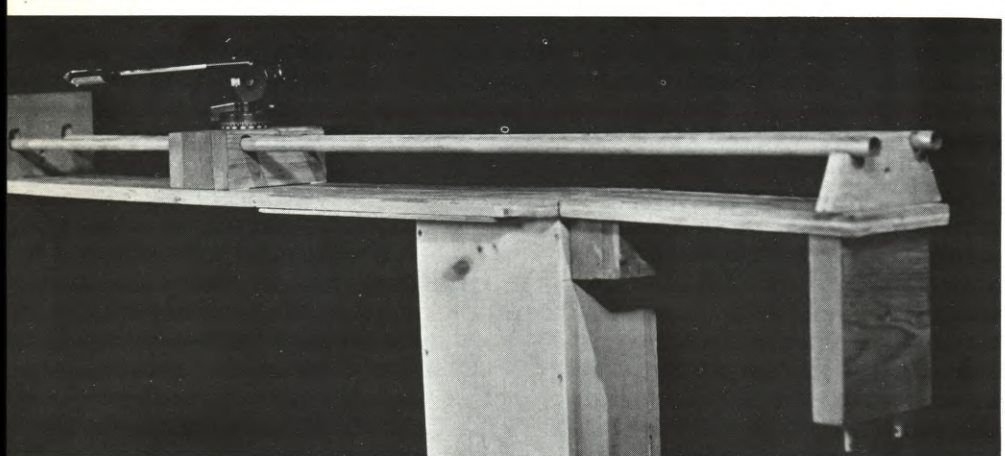


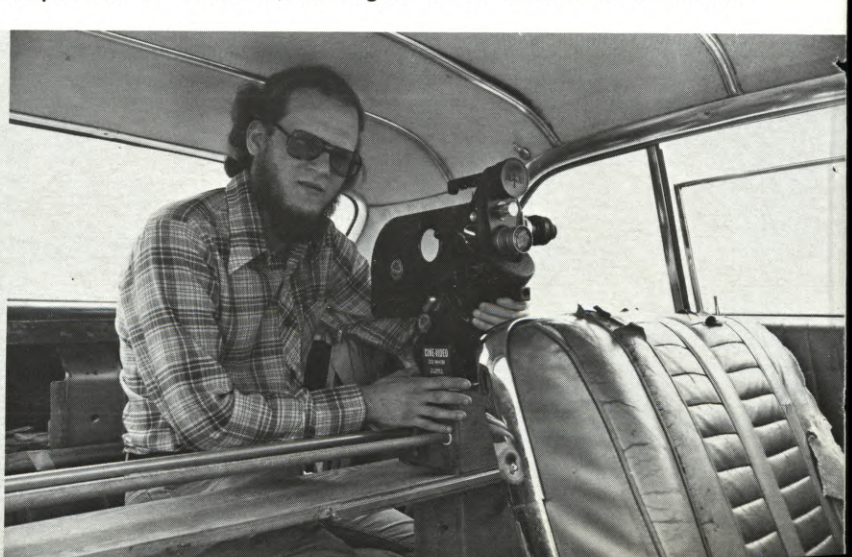
FIGURE 1—This is the basic track in its most primitive form. (BELOW) FIGURE 2—The track extension has been added here. The front support piece has two bolts coming out of the bottom, with nuts concealed in the wood. When the track is positioned in the car, bolts can be adjusted so that the extension is precisely level with the main track.

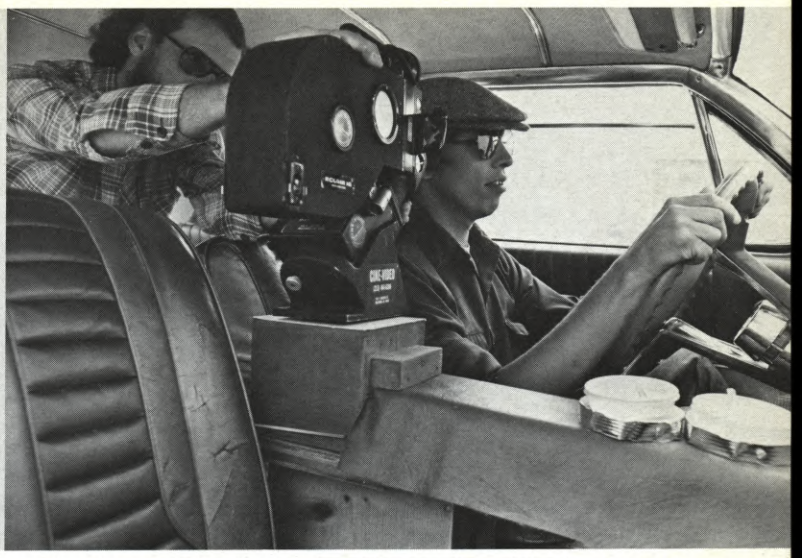
I recently had the opportunity to work on the film AUTO-MATES, written and directed by Gary Walkow, in which all the shooting was done inside an automobile. The story involves a young couple who find, upon returning home from a short trip, that they cannot leave their car. Not inclined to break the windows (which only open a few inches), the two characters seem to accept their fate complacently, and are consigned to a world of gas stations, drive-up food services, and drive-in movies. The characters' existence becomes a series of journeys to and from their driveway; they return home only so they can leave it again. We are with them from the beginning as they discover, and learn to live with, their predicament. The film is essentially a fantasy about southern California.

Gary Shusett, director of Sherwood Oaks Experimental College, saw the possibilities for this script and decided to use it for the school's independent film project, the Sherwood Oaks Film Collective. Gary Walkow would direct the film, and the crew and equipment would be assembled through the school.

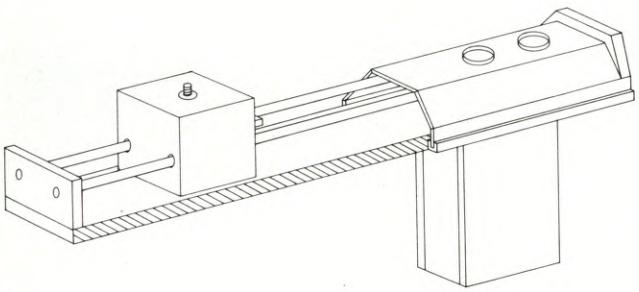
All shooting would be done inside the car, thus integrating form and content. Because the car was often in motion there would be no way to utilize a large crew. Also, a small crew would be less likely to draw attention while shooting "in the field". Consequently, besides the director, the crew consisted of two cameramen (myself and Ira Eichner) and our production manager, Mary Mann. Sound was covered by the director, or simply run unmonitored on shots where the camera saw too much of the car interior to accommodate anyone but the actors and

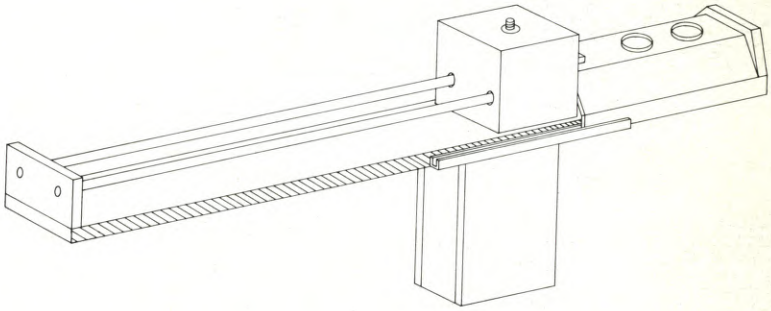
(LEFT) FIGURE 3—In another view of the track with the extension, one can see the forwardmost position of the camera. (RIGHT) FIGURE 4—Here, with Director Gary Walkow behind the camera, the track spans the rear armrests, allowing for the execution of lateral camera moves.





(LEFT) FIGURE 5—With Gary Walkow and C.M. Heard we see the canopy disguise covering the front eighteen inches of the track, which would otherwise be visible to the camera when its 10mm lens is pointing towards the windshield. (RIGHT) FIGURE 6—When the camera is moved forward—in this case, into a profile of the driver—the canopy is pushed forward towards the dash.





(LEFT) FIGURE 7—This drawing (not to scale) shows the track with the canopy disguise in place, and the camera block in a retracted position. (RIGHT) FIGURE 8—The camera block pushes the canopy forward. The small block of wood on the front of the cameramounting block engages the back of the canopy to prevent it from falling over the front end of the track.

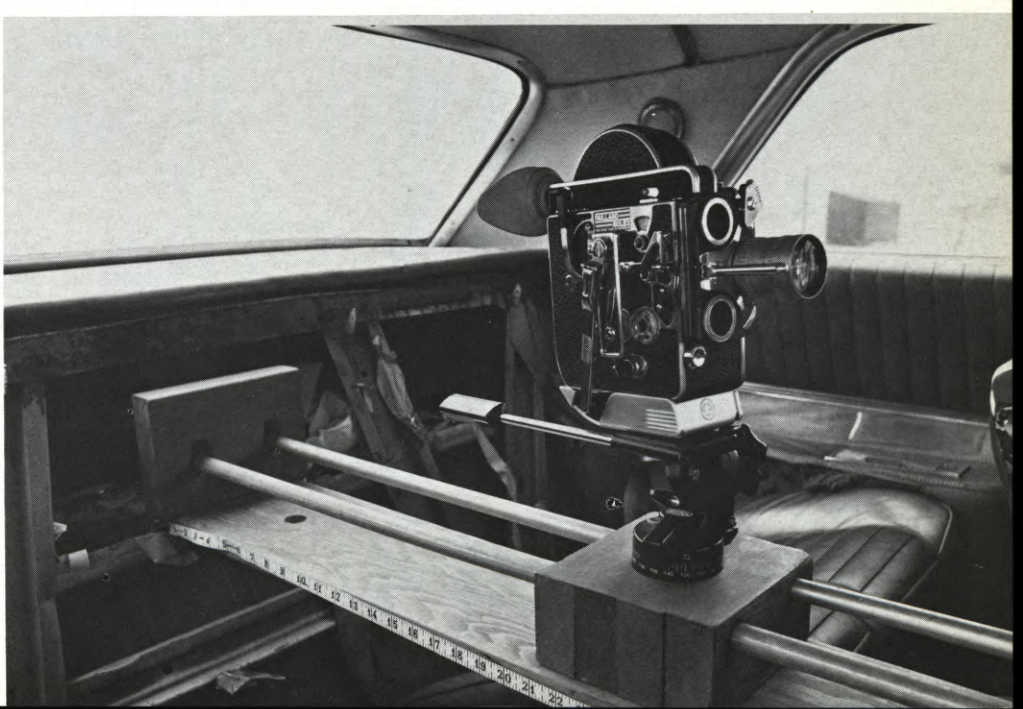
the cameraman. The cast consisted of the two main characters (played by Geraldine Bartlett and Patrick Kuhn), and one actor who played all the small parts (gas station attendant, ticket taker at the drive-in, etc.).

The car chosen for the film was a 1963 Oldsmobile Starfire, owned by Mr. Shusett. It seemed to embody a basic value (especially of that decade) in automobile design: a machine built not only as a means of transportation, but an artificially created environment; an extension of the body, designed to isolate one from one's surroundings. Its features included power steering, electrically operated windows, and a small servo-motor in the AM radio to locate stations automatically. The interior was blue and chrome. The car's uncompromising size afforded plenty of interior space to accommodate shooting.

To lend a visual excitement to the film,

Continued on Page 825

FIGURE 9—A Bolex is mounted on the small block for use in the single-frame sequences. The tape measure made possible to move the camera the same distance each time a frame was exposed. When the film was projected, the camera appeared to be moving at a normal tracking speed inside the car, while the images beyond the windshield flashed in rapid succession on the screen.



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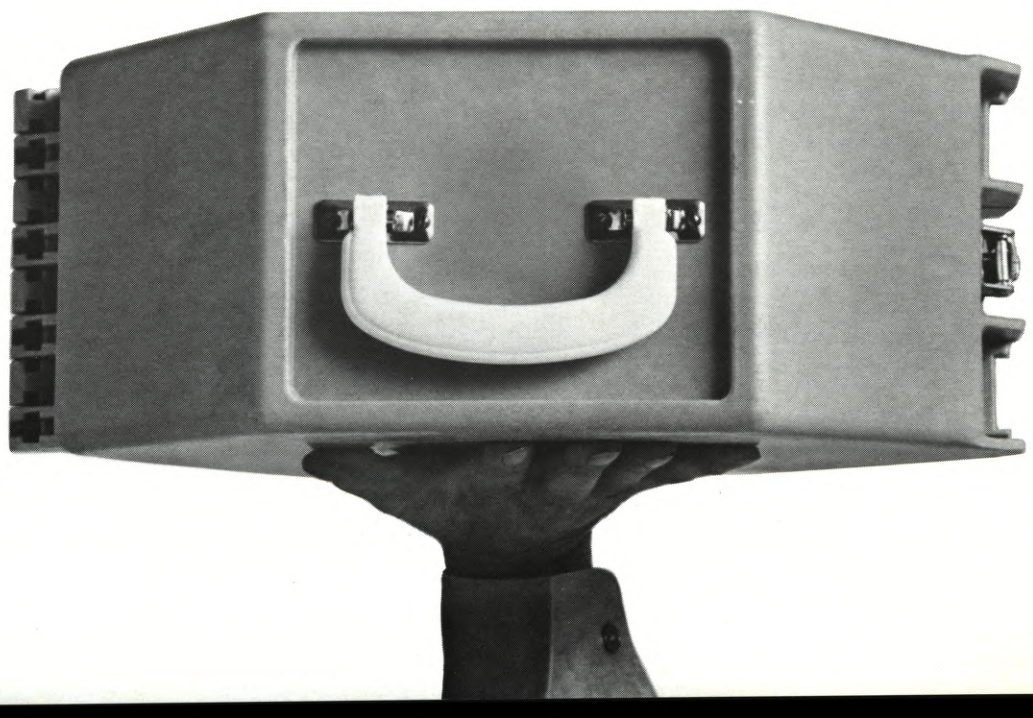

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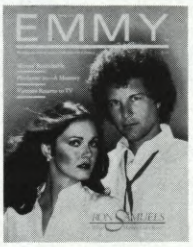

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FILMING LONDON'S EAST END ON A SHOESTRING

On a sentimental film-making journey back to his birthplace—London's colorful "other side of the tracks"—the author finds that while you sometimes can go home again, it's never the same

By STANLEY MINDEL

What do William Penn, Geoffrey Chaucer, Captain Cook, Lord Grade, Thomas Jefferson's mother, "Jack the Ripper" and this author have in common? We were all either born, or were long-time residents, in the East End of London.

When I am asked where I come from and mention the East End I get an inquisitive look as if I am mentioning an area that is at the end of the earth. The reply is often, "I have heard of the West End; is it near there?" It has no connection whatsoever. Certainly, when compared with the West End, with its affluence, fine apartment buildings, exclusive stores and theaters, the East End's ongoing struggles with poverty are outlined sharply.

I do ramble on when attempting to describe the East End, especially with its wealth of history—plus dropping the names of its most famous residents. Attempting to give a true description of the area is another story. When Jack London visited the area in 1903 he said, "No more dreary spectacle can be found on this whole earth than the whole awful East End . . . Everything is helpless, unrelieved and dirty".

But still his words cannot portray an actual picture. Hence, I decided to make a documentary film on the area, showing as many facets as possible.

The first seeds of the idea came when I was a film student at UCLA. Being a screenwriting major, I didn't have to make a film known as a "Project Two" for productions majors. But is was something that I had to get out of my system. The film was purely a labor of love. The most important tool of my task, as it is for all filmmakers and other craftsmen, is knowledge. I took two cinematography, three editing, a sound recording as well as two journalism courses and, perhaps most important of all, a course in writing for the non-fiction film. I must admit that my long career as a still photographer and photo-journalist didn't hurt a bit.

At the UCLA Motion Picture School, cameras and equipment could not be taken out of the state, nor could one have use of them for a long period. I purchased a Bolex-H 16 for $50 complete with three lenses, two of them useless. Initial tests proved this, as well as revealing that the camera was running too fast. I took the camera to Paillard and by this time I was wondering if I had got such a great bargain. Technicians at Paillard didn't advise any servicing but adjusted the speed selector and taped it down. Next step was to scout the pawn shops of Los Angeles to find a 12.5mm and a 75mm lens to accompany the one good lens on the camera. I was in luck. I found the lenses at bargain prices even though the cost came to more than I paid for the camera. The next piece of equipment to be looked into was an exposure meter. I located a used Spectra Combi minus the pertinent slides. Photo Research of Burbank drilled the new slides and checked out the meter.

I planned to leave Los Angeles as soon as the Winter Quarter was over at UCLA and take a leave of absence, as I intended to return to UCLA to do the post production. My stockbroker and other "experts" advised me that the time was right to unload my two hundred shares of Columbia Pictures stock at ten dollars a share, as they wouldn't go anywhere! This was to help finance the film.

I took the minimum amount of equipment possible. The balance of the equipment would be rented. The camera rental would be rather expensive, so naturally this went along with two still camera, recording tape, 20 100-foot rolls of ECO (since film is rather expensive in Britain), plus my bible: The American Cinematographer Manual. Fortunately the equipment and my luggage were not weighed at the airport. This, however, caused problems on my return when the rules changed, allowing a passenger two pieces of "free luggage." My main concern was that my film not be X-rayed and this was requested.

A shooting script should have been written, or even a form of storyboard planned, before leaving—but being somewhat of a procrastinator, I kept it all in my head. I knew what I wanted. Perhaps it was all just as well that the script was not written because of my first day of reconnoitering the location, I felt that a prepared script would have been down the tubes. In the course of seven years since my last visit the area had drastically changed. Thomas Wolfe's quote "You can't go home again" rang true. Gone were the establishments that I

Middlesex Street (Petticoat Lane) in London's East End at the height of its outdoor market hustle-bustle. The market extends well to the left of this photograph, providing a long pan shot for the author's film. Note that each stall is topped by a trellis, so that a tarpaulin can be thrown over it in case of rain.

wanted to include in the film, such as the Dutch-Jewish pattisseries, and Barnett's butcher shop with its floor piled with sawdust where they served piping hot salt beef (corned beef) sandwiches to the now almost non-existent London Docks which were in the process of being demolished.

At this point I realized that I had to do some re-thinking. Too, I was thanking my lucky stars that I had not written the full script. I did it the hard way: shot the footage, edited and wrote the script into the finished footage. The film encompasses seventeen subdocumentaries showing the different facets of East End life and its history.

I arrived on April 4th, 1977 and parked myself at the International Student's House in the West End just twenty minutes away from my locations on the tube (subway). Three weeks later, on a Friday afternoon, the sun came out! I shot a couple of rolls, well almost, before the sun went in again for another three weeks. This footage was mainly a test to see if my Bolex had stood the journey well. The camera is a difficult one to use. I had to take into consideration each time whether I had the correct viewfinder for the lens, and whether the filter was on? I used a pocket rangefinder for measurement—and then there was the spring drive motor. A lot of winding for a twenty-odd-second spurt—and the biggest bugbear of all, parallax, especially on close-ups. Before I finished shooting the two hundred feet the sun went in . . . for another three weeks!

I took the rolls into Reed Colour Lab for processing and a work print. Everything was fine, except that my hand was not steady enough and a tripod was definitely needed. The biggest hassle of the shoot was the weather. Not so much rain, but poor light. It runs into a series of grays from medium to black. The European photographers are at a great disadvantage if they depend on natural light. One is apt to taking filming for granted in Southern California, not often appreciating the almost constantly available sunlight.

I filled in the time by working. Fortunately, by virtue of being a dual national, I had no problem with work permits in Britain. When the light was light gray. I worked on my "still" black and white photography, the stills that supplement this article. When there was no sign of good light I decided to shoot interiors.

First among these was what I considered one of the highpoints, The Whitechapel Bell Foundry. The foundry is perhaps the world's oldest small business. No one is quite sure of its age, but it is at least four hundred years. The foundry is noted for its castings of Big Ben, the Great Bell of St. Petersburg and the original casting of the Liberty Bell. I went to see Mr. Hughes, the current owner, for permission to film. He told me that B.B.C. Television had been there just two weeks previously and had completely disrupted the place. The men could not get on with their work and "we have a two year backlog of orders." I told him his establishment would be interesting to American audiences and would make a big hole in my film if it were not included. I saw the documentary the B.B.C. had made later that summer on television. It was absolutely awful. It consisted mainly of Mr. Hughes' talking head, cut off from the middle of his forehead.

Mr. Hughes asked how many on my crew? I told that it would be a one-man crew. He agreed to the shoot, provided that I did not hinder the men working. He told me the next casting would be at two o'clock the following Wednesday. "Be here!" The first thing that came to my mind was that it was the first Wednesday in June, Derby Day, and I would rather be at Epson Downs for the race. But I couldn't ruffle Mr. Hughes' feathers and agreed. It *was* the most beautiful day for outdoor shooting!

I rented a tripod with a Miller fluid head from Pelling and Cross in Baker Street near the Student's Hotel and just twenty-three steps away from Sherlock Holmes' supposed residence. The tripod rental was nine pounds a day (sixteen dollars). I never used a car or taxi for carrying any of the equipment. All transportation was done by "tube" or bus. The camera, exposure meter and rangefinder went into one case, rolls of film into all available pockets. I carried a Nikon around my neck and the tripod was tucked underneath my arm. I could not manage a reflector and one was never used.

I utilized the morning by filming the old Huguenot area of Spitalfields. The Huguenots settled in the area after the revocation of "The Edict of Nantes" in 1685. They set up a silk weaving industry which remained for 225 years. Their cottages still remain, although in a dilapidated state. Filming in this area was nostalgic for me, since I had lived in one of these old weavers' cottages as an infant. I attempted to make a montage of the French street signs that remained. But unfortunately, due to the parallax problem on my Bolex . . .

After a quick lunch in a pub operated by a turbaned Sikh I was off to the bell foundry. I filmed the complete process of bell-making, from the mixing of the clay, cow dung and hair for the casting mold to the final tuning. There was time to shoot a

Continued on Page 832

Capitalizing on the legendary name of "Jack the Ripper"—a local boy who made bad, so to speak—this pub changed its name to honor him. It offers its patrons the irresistible combination of "the best disco music around, exhilarating atmosphere, and hot and cold tempting snacks." Who could ask for anything more?

To shoot Huey landing on sandbank, 16SR was wrapped in plastic bags. Camera crew shooting inside copter wore army uniform so they could be in other camera's shot. Cameramen often shot over machine-gunners' shoulders. Ejected cartridge cases would fly through frame; noise of gunfire so close would cause cameramen and camera to flinch, adding to realistic look.

How and why part of "More American Graffiti" was shot in 16mm using the Arriflex 16SR:

The Vietnam sequence needed a combat footage look. To create that *controlled* illusion called for some unorthodox techniques and skills.

Bryan Anderson floats 16SR as he follows running soldier, for unrehearsed combat-footage look. "With the SR's closing eyepiece," he says, "I could begin or end a shot like this with my eye at the finder. People were at first a little dubious about this way of shooting, until they saw the rushes. After that, they wanted more."

"The original blowup was beautiful," says Editor Tina Hirsch. "During dubbing, we projected the workprint on a 25 foot screen at Goldwyn. The blowup material looked *much too good* – as though it *belonged* with the 35mm footage, especially the multiple-image stuff. To make it look authentic, we had to ruin the quality."

Four formats

More American Graffiti cuts back and forth between four visual formats. One strand of the story was shot with long lenses at 1:1.85. Another was shot wide-angle and anamorphic. A third is multiple images. Those three are 35mm.

Blown up twice

The fourth strand was shot in 16mm and blown up – *twice*. To make that sequence look more distinct, the footage was first blown up to a 35mm CRI and a timed workprint made. From that, *another* negative was made, optically blown up a further 10%, using camera original stock to gain contrast.

Hand-held dialogue

"Many people think the Vietnam sequence is the best in the film," says Director of Photography Caleb Deschanel. "The gritty quality of the

photography makes you really believe what you're seeing. The whole thing was shot hand-held, including dialogue scenes. We kept reminding Bryan Anderson and Hiro Narita (the operators) that *they* were under fire and in danger."

Grab it and go

"We needed cameras that would let us move fast *and* help us get the best possible 'combat' footage. You can always degrade the image later, as *we* did – but you can't improve the *shot* later. We all felt comfortable with the SR. It seemed really solid. The balance was great. The battery was right on the camera, so you could grab it and go. *Excellent* optics."

One-take explosions

"When we got to shooting the battle scenes and helicopter stuff, we would slate the rolls and just get in there and do it," says Mr. Deschanel. "We tried to keep a full mag in case things got out of hand, but we often ran out anyway. Being able to reload quickly helped us a lot – especially with explosions and difficult helicopter scenes."

$2250.00 an hour

"Things were constantly in a big rush," says Writer-Director Bill Norton. "The Huey helicopters were available to us for only three days. In any case, two Hueys plus a Jet Ranger for air-to-air at $750.00 an hour each . . ."

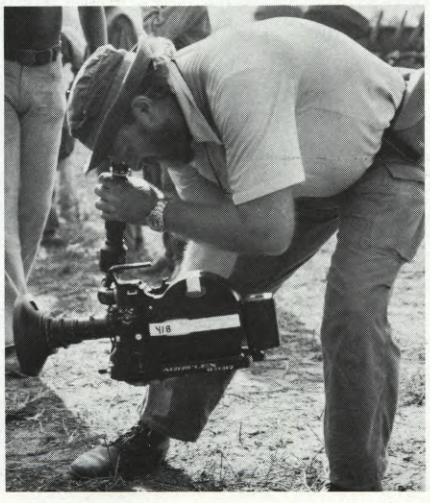
Crowd scene

"We shot dialogue scenes *inside* the Hueys, in the air. There would be *two* cameramen (with cameras), the soundman, me, the pilot, an actor and some extras, all in there at once!

This shot began with Bryan Anderson riding jeep fender. When jeep stopped, he followed Senator (civilian clothes) and Captain as they ran into a bunker. Anderson made many shots while running. If camera bounced noticeably, editor would sometimes put an explosion effect on soundtrack, opposite the image bounce.

Hiro Narita testing balance of Shakicam used in scene described at right. Observing in the background is *More Graffiti* Director of Photography Caleb Deschanel.

Combat-footage effect called for low angles from behind troops taking cover on ground. Long finder let Anderson walk with SR while keeping lens near ground.



We couldn't have done it in 35mm, obviously. And the two ground battle scenes were shot in one day each."

Unusual style

"Because of Bryan Anderson's documentary background, he really came into his own during the Vietnam sequence," says Mr. Norton. "He would frequently suggest unusual approaches to a scene. Since it was 16mm, I'd say *Go ahead*. He got some very spontaneous-looking stuff."

Change of pace

"One of the two 16SRs we used was my own camera," says Bryan Anderson. "I've used it for documentaries, industrials and commercials. *I didn't expect to use it on a multi-million dollar feature!* We were told to give it an 'immediate' look. That suited me. I had a great time."

Wading backwards

"In one dialogue scene," says Hiro Narita, "Two actors with radio mics crouched, talking, in a river – and then hurried across it under fire. An underwater platform had been built so they could wade thigh-deep. To get the shot, we waded *backwards* in front of them!"

Shakicam

"With the camera on my shoulder, it would have been *too* unsteady and too top-heavy for moving in water. So we used Caleb's 'Shakicam.'" (See picture at left.)

Tightrope walker

"I held it like a tightrope-walker's pole in front of me," says Mr. Narita. "Just above the surface while the actors talked, then raising it slowly to waist height as we pulled back across the river. Caleb guided me from behind. The SR with a 9.5mm lens was at the right end, the counterbalance on my left. Interesting effect!"

More American Graffiti
is a Lucasfilm production.

THE TWELFTH ANNUAL MOTION PICTURE SEMINAR OF THE NORTHWEST

Celebrating a dozen successful years, this friendly forum of film talk in the Northwest has become one of the most vital events of its kind

By MARTHA GIES

On June 1 and 2, for the twelfth consecutive year, Seattle hosted the intensive two-day information exchange that is the Motion Picture Seminar of the Northwest. This is the annual event which draws an audience of 900 participants to listen to film professionals who work in every capacity—directing, production, screenwriting, editing, cinematography, make-up, art direction, lab services, suppliers and teachers—from areas as diverse as Santa Monica, Miami and Holland.

As is now traditional, the seminar began on Thursday evening with a sunset dinner and cruise. The speakers—this year there were 26—are especially invited to this kick-off party which is meant to provide an opportunity for participants to socialize with the motion picture professionals who have come to share with northwest audiences their particular insights and expertise.

During coffee break in the foyer of the Seattle Playhouse, seminar participants talk with the speakers, with one another and view the exhibits. Because of its popularity, the Seminar Committee has been urged to move the event to larger quarters, but they prefer to keep it informal and intimate, with direct contact between speakers and audience.

The *Virginia V* departed at 6:00 p.m. for a slow cruise around Lake Washington. The bar opened immediately and a three-piece jazz band consisting of trumpet, keyboard and drums began to play. Seattle is a city of mountains, trees, and waterways, and as old and new friends danced and conversed, Mount Rainer, the arboretum and the Olympic mountain range came into view. A catered buffet of salmon and chicken was served on board following a classic sunset. When the boat docked four hours later, darkness had just fallen on a warm June evening.

The seminar properly begins Friday morning at the Seattle Playhouse, on the park-like site of the 1962 World's Fair. A continental breakfast is laid outdoors for the audience to enjoy during registration. Just inside the playhouse lobby, nearly 30 commercial exhibitors are setting up exhibit booths.

Promptly at 9:00 a.m., Keith Cutler, a long-time seminar board member from Vancouver, B.C. and this year's moderator, introduced the first speaker. While it is not possible to summarize the entire two-days' offerings, the following is a distillation of this year's highlights.

Susan Shadburne, the multi-talented producer and writer who was responsible for *Claymation,* voted the 1978 Best Film of the Seminar, described the activities of the "Northwest Media Project," an association unique to the northwest, which distributes 16mm personal film, publishes the Oregon film industry producer's guide, along with other publications, and acts as a clearinghouse for information about regional talent and resources. With offices in Portland, Oregon and a membership drawn from the entire region, the not-for-profit Media Project has served as fiscal administrator for several grant-funded film projects directed by its various members.

Doug Huse, speaking on "The Role of the Agency Producer," especially emphasized the importance of maintaining a single point of view as a project is impacted variously by writers, legal advisors, the director and cinematographers. Huse screened a number of his own commercial spots including two especially inventive spots for Oldsmobile and Kellogg's Cornflakes. The latter brought a spontaneous applause and Huse remarked wryly that the clients had never actually bought it in the end.

Portland producer Homer Groening,

(LEFT) Keith Cutler, this year's moderator for the Seminar speakers program. (RIGHT) Denis Sanders, Academy Award-winning director, was the Seminar's Saturday luncheon keynote speaker. For its always illustrious roster of speakers, the Seminar draws equally from film-makers of the Northwest and internationally famed motion picture creators from Hollywood. The guests enjoy the legendary hospitality of the local Seattle people.

always a popular speaker, talked on "The World of Northwest Filmmaking." Groening is one of those highly fortunate producers whose reputation now enables him to make every film a personal film, no matter who the sponsor. His film clips included a zany *potpourri* of underwater images, aerial shots, "music" composed of waterdrops and the cry of whales, and Homer's own Zen-like poetic compositions. In a segment from a film about a home for disturbed children, Groening's personal signature, the subjective, voice-over interview was heard:

Groening: Are you involved with surgery or shock?

Children's Home: We don't do either. We do use drugs.

Groening: Do you think it's going to work?

Children's Home: What?

Groening: This thing your spending your life at?

"Creating the Film from Conception to Fulfillment" was writer/producer Tommy Cook's topic. Associate Producer of *Players,* Cook talked explicitly and confidently about marketing a project in Hollywood. He especially emphasized the studios' and networks' need for new talent now and described his own personal formula for presenting a script or treatment.

In "The Role of the Director-Cameraman," Lear Levin described and screened a short selection of commercial work from a long list of prestigious clients. Although he has directed over $17 million worth of work over the years, he spoke most nostalgically about an $8,000 job shot in Boston in two days, and on which he was given a creative free hand and especially liked the people he worked with. There is a sincere human element in his spots, possibly attributable to his acknowledged preference for non-professional actors.

Robert Boyle, long associated with Alfred Hitchcock and Norman Jewison, spoke on "The Art Director and His Relationship to the Film." After showing a ten minute, re-edited section of *Fiddler on the Roof* (Boyle was art director), he answered a number of questions on the demands of designing for film production. This opportunity to question the speakers, possible only because the seminar board has purposely conspired to keep the audience to manageable numbers over the years, is in large part responsible for the popularity and usefulness of the seminar to its participants.

Following a three-hour break for dinner, Friday night audiences viewed a pre-selected offering of the "Best in the Northwest" films. As always, submissions came from Western Canada, Washington and Oregon. Eleven short films and six television spots were shown. The audience voted on the "Best of the Seminar" film and, considering the make-up of the corwd, it was a tough competition. It was announced the following day that RIP VAN WINKLE, a 28-minute clay animation, upbeat rendition of the well-known childrens' story, was the winner, and a one-hundred-dollar prize was awarded to Will Vinton from Portland, Oregon.

Saturday morning began with "Getting Funds for Independent Production," the published title of Calvin Watson's talk. An eager audience waited through a long description of the proposed labyrinthine reorganization of the Public Broadcasting System (PBS) and the Corporation for Public Broadcasting (CPB) before Watson got to his point. Watson, who is director of television activities for the CPB, reassured producers and writers that there is an ear in Washington, D.C. for quality ideas—and $14 million in production funds after October, 1, 1979.

Ron Olsen of North American Film Enterprizes in Eugene, Oregon, speaking on "Fourwalling: From Black Gold to Dry Hole," startled amused audiences with his candor: "We rent a theater, hit hard, move fast and fill those houses before word-of-mouth kills us." A realist about the product he's selling ("These pictures aren't as good as you thought they'd be."), Olsen described the techniques of television saturation and quoted astonishing grosses.

As is customary, Saturday noon brought something special. Keynote speaker Denis Sanders, who was introduced as the complete filmmaker in the tradition of Flaherty and Capra, spoke to the group at a large sit-down luncheon. Sanders, whose projects have ranged from features, to television specials, documentaries and educational films, is a writer, producer and director. He has a thorough command of the industry, speaks in a well-informed and down-to-earth manner, and can spontaneously calculate cost and marketing projections for every aspect of filmmaking. After relating his own beginnings in film—he won an Academy award for his UCLA thesis film, *A Time Out of War*—he shared a number of valuable do's and don'ts from his wide experience in the business.

After lunch, Ralph Liddle, a documentary filmmaker from Juneau, Alaska, presented "From Unemployment Check to Cannes," his own personal success story with his new feature-length film, SPIRIT OF THE WIND. Liddle negotiated a one-year option on the rights to the life story of an Athabascan Indian who is a champion dogsled racer and sold the idea to the Indian-owned and operated Doyon, Ltd. It is a beautiful film (as viewers were to see later that night) and has already made enough in advance minimum guarantees generated at

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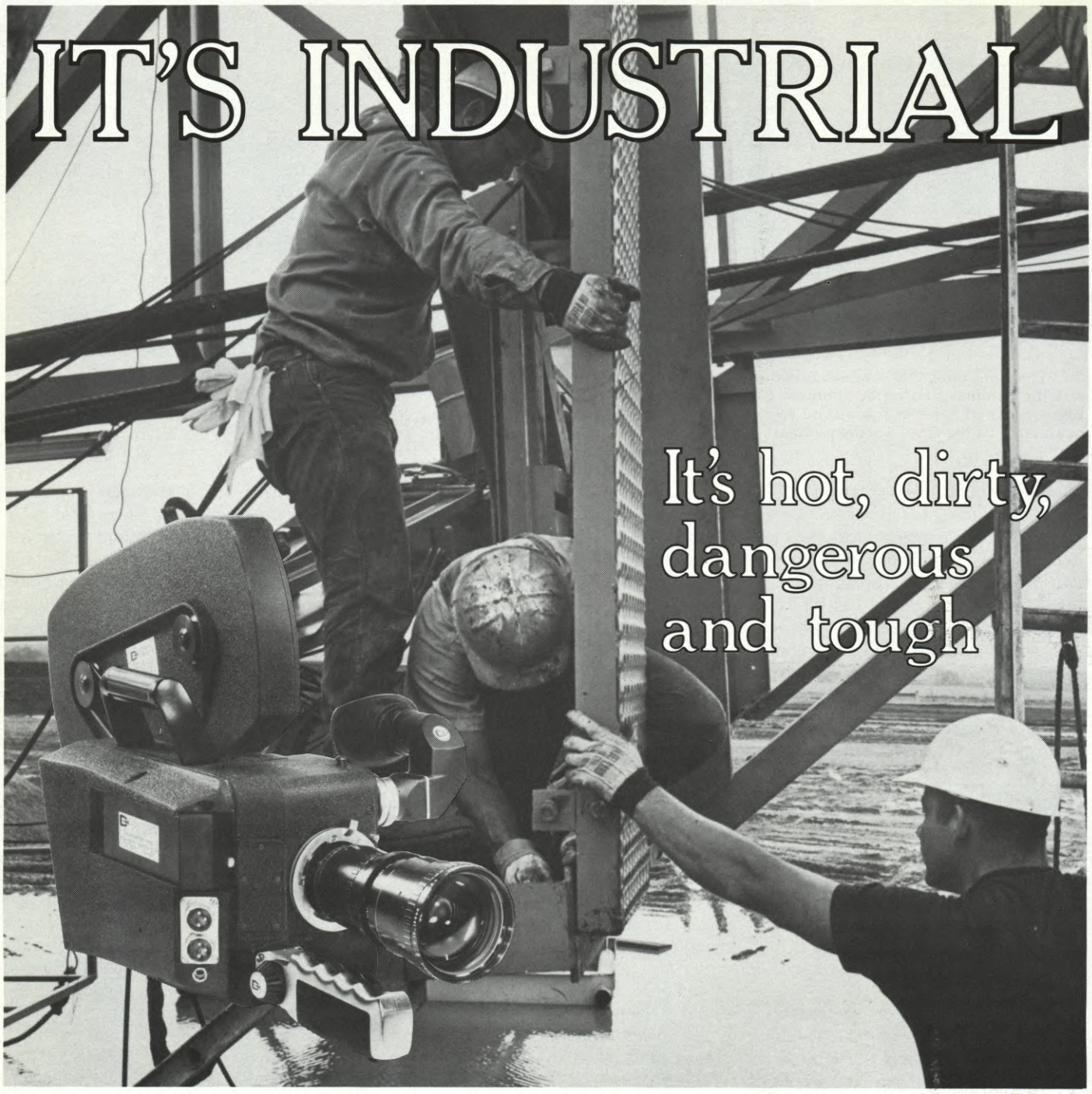

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HMI...WITHOUT FEAR OF FLICKER

By RICHARD B. GLICKMAN
Luxdyne Corporation

The latest innovation calculated to eliminate the residual flicker of HMI lights utilizes electromagnetic rather than electronic elements

INTRODUCTION

The HMI source is rapidly taking its place in the field of professional lighting for cinematography, in spite of the fact that there are still situations where the "flicker" problem has caused serious difficulties.

The "flicker" problem stems from the fact that the HMI source is an A.C. arc and the relationship of light output versus time represents a close approximation to the wave form of the applied electrical current. All light sources operated on alternating current exhibit this effect. FIGURES 1 and 2 show an incandescent lamp and a standard fluorescent lamp (both A.C. operated).

With the standard reactance type of ballasting normally used with HMI lights, the light output dips to approximately 18% of the peak value during each half-cycle of the applied current. This produces a "flicker" rate two times that of the line frequency. This is the fundamental problem relative to the application of these sources. FIGURES 3 and 4 show the current wave form and the light output respectively for a 1200-watt HMI lamp.

Until now, the main time-related factors which had to be controlled in relation to one another to prevent the occurrence of "flicker", were:

a. The camera framing rate
b. The camera shutter angle
c. The A.C. power supply frequency to the light source

Currently, the approach to eliminating the problem of flicker when filming with HMI lights is to utilize one of the following arrangements:

1. Use of power from a power company (very stable 60-cycle source), and a crystal-controlled camera motor (locked at 24fps). With these two items assured (very stable power frequency and camera framing rate) it is possible to shoot at a wide variety of shutter angles without difficulty.
2. When using a generator for HMI power, the tendency has been to go to "crystal-controlled" generators. *As long as conditions are left unchanged during a shot,* this system also will provide a stable 60 cycles. In addition, it is necessary to remember the 24fps caution, (crystal-controlled accuracy required). It is recommended for these test situations that a shutter angle of 144° be used since this represents an area where some tolerance can be permitted on the various parameters (line frequency and shutter rate).

Under the above conditions, and as long as the rules are followed properly, no difficulty should be encountered with "flicker". The fact is that many millions of feet of film have been shot this way without problem.

The systems above have validity as long as respect is shown for the rules. Some test work has indicated that on a camera with a 175° fixed shutter, where the frequency was allowed to vary ± 1/4 cycle (even with the camera crystal-controlled at 24 frames), an observable and objectionable flicker was created.

Some other approaches to the solution of the flicker problem have been discussed, and in particular there have been promises of electronic inverter type ballasts. These are being represented to be extremely lightweight efficient systems. So far they have only been shown in 575- and 1200-watt sizes, and to the best of this writer's knowledge, there are none of them actively in the field other than for the test purposes. The most optimistic of the suppliers of this type of equipment have indicated that 2500- and 4000-watt equipment is a long, long way in the future.

LUXDYNE LO-MOD BALLAST SYSTEMS

This is the first new approach to the solution of the "flicker" problem, which represents inherently rugged, non-electronic systems. These operate on a slightly different principle than has been applied in other attempts to solve the problem. *The Luxdyne systems are available for the full range of HMI lamps from 575 through 4000 watts.*

FILM TEST

Film tests have been completed on the Luxdyne Low Modulation Ballast which show that the system (used with any lighting head) allows the following freedom:

a. Power input frequency can vary ± 3 cycles (57 to 63 cycles test range).
b. Normal range of shutter angles may be used (90° — 200° test range).
c. Wild motors may be used. In fact, any framing rate may be used between 16 and 32 fps.

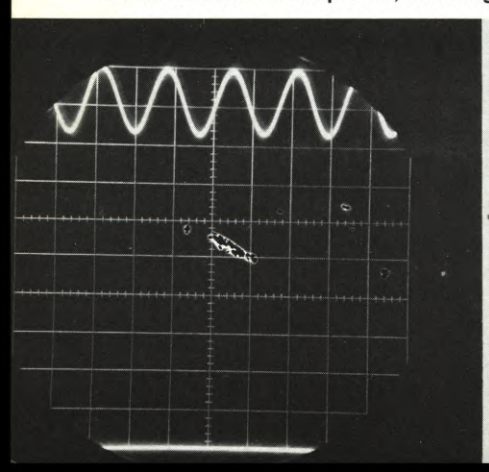
The three variations noted above in paragraphs a, b, and c may all be permitted to occur in any combination at the same time. That is to say, the frequency can vary (± 3 cycles/second) while the framing rate is wandering (16-32 frames) and all of this at any desired shutter angle (90°–200°).

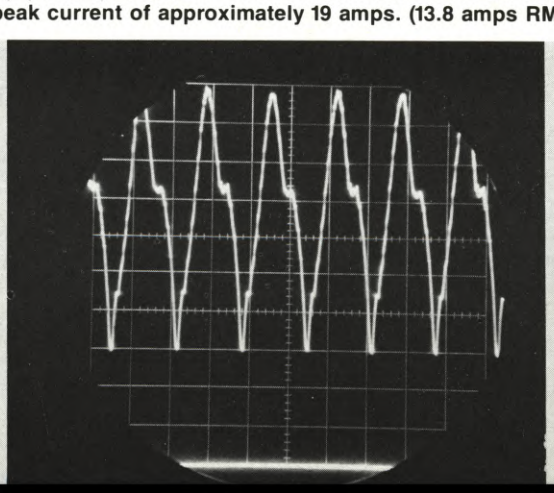
More testing is planned to establish the more extreme limits of the system (including slow-motion framing rates), and will be reported soon.

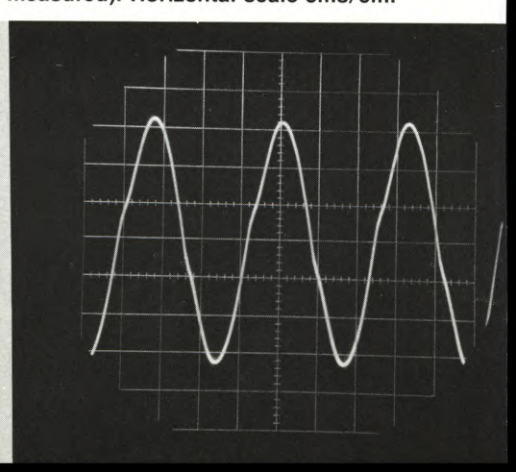
HOW LO-MOD WORKS–WHAT IT IS

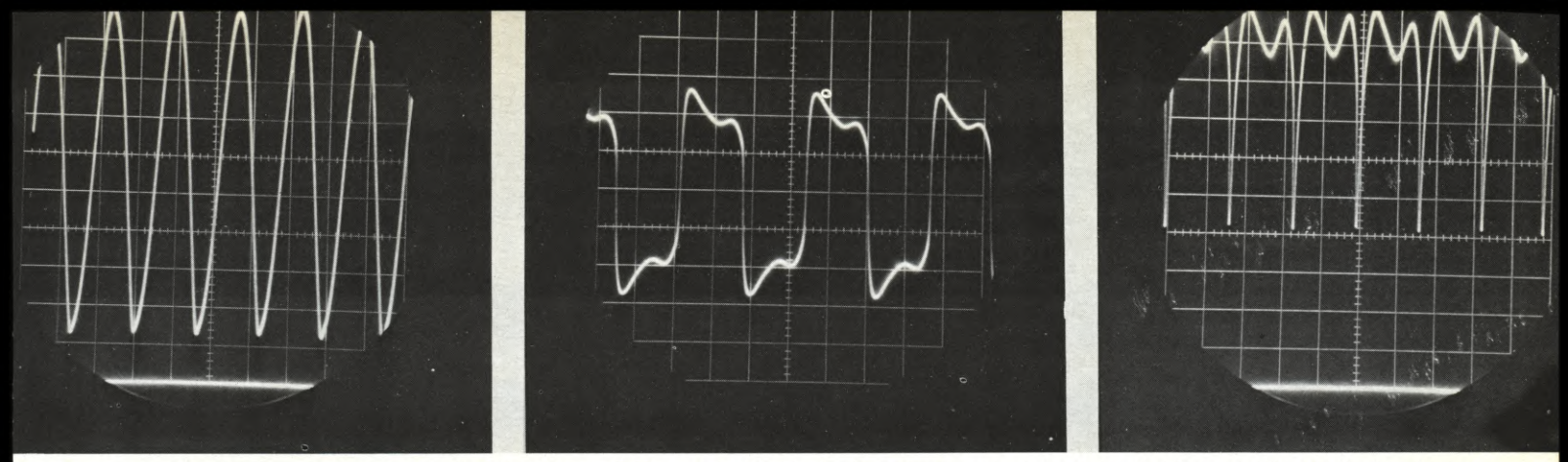
Luxdyne Lo-Mod Ballast Systems op-

(LEFT) FIGURE 1 — Light output of an incandescent lamp. The vertical scale is arranged so that each vertical division is 10% of the maximum light output. The lamp appears to modulate to about 83% of maximum at each *half* cycle of the A.C. (Horizontal scale is 5ms/cm). (CENTER) FIGURE 2 — Light output of a standard fluorescent lamp. Same scale as Figure 1. Modulation here is to about 30% of maximum light output. (Horizontal scale is 5ms/cm). (RIGHT) FIGURE 3 — Current waveform of a conventional reactance type 1200-watt HMI ballast. Vertical scale is 6 amps/cm, showing peak current of approximately 19 amps. (13.8 amps RMS measured). Horizontal scale 5ms/cm.









(LEFT) FIGURE 4 — Light output of a 1200-watt HMI lamp on the ballast whose lamp current is shown in Figure 3. The vertical scale is arranged so that each division is 10% of the maximum light output. This lamp appears to modulate to approximately 13% of the peak light output. Horizontal scale is 5ms/cm. (CENTER) FIGURE 5 — Current waveform of a 1200-watt Luxdyne LO-MOD ballast. Vertical scale is 6 amps/cm, showing peak current of approximately 16 amps (12.8 amps RMS measured). Horizontal scale is 5ms/cm. (RIGHT) FIGURE 6 — Light output of a 1200-watt HMI lamp on the Luxdyne LO-MOD ballast (current waveform shown in FIGURE 5). Vertical divisions are 10% of maximum light output. Horizontal scale is 5ms/cm. Comparison with FIGURE 4 shows the greatly reduced "off-time" of the light, and the reason for the "flicker-free" operation described.

erate at line frequency. That is to say, no attempt is made to change the operating frequency of the light. *The operating principle is that the shape of the current wave form is modified to approximate a square wave.* This results in less "off" time for the lamp, with the result that it is possible to approach the kinds of modulation levels that are typical of small incandescent lamps. FIGURES 5 and 6 show the current and light output respectively of a 1200-watt LO-MOD ballast.

Strong consideration was given in the design of the Luxdyne systems to criteria which were felt to be important in the film industry and in particular to the questions of reliability and ruggedness. The equipment must be both mechanically and electrically able to withstand a certain degree of rough handling and abuse. In some ways this is as important as actually overcoming the flicker itself. The importance of this point is felt so strongly that Luxdyne Corporation offers a *one-year unconditional parts and labor warranty on their ballasts.*

The technology applied in this system utilizes electromagnetic devices for the functional elements. These consist of iron and copper and are essentially indestructible. The avoidance of electronic systems with the inherent sensitivity to transient phenomena in the electrical circuits, were a primary consideration in approaching this problem. The price for this ruggedness and reliability and simplicity is that the Luxdyne ballasts are heavier than the conventional type. The penalty would seem to average about 75%. At first this might seem to be a serious limitation, but on reflection the logic of moving these ballasts needs to be re-examined. Typically the 4kw ballasts in the field today weigh betwen 135 and 180 pounds. These are not, by any standard, portable. Examination of the cable sizes required for connecting the ballasts to the lighting heads, reveals that the cable sizes are quite small when compared with the lighting units which have been widely used in professional photography. It is also important to note that the output cable is much smaller than the input cable.

TABLE I shows the actual current requirement for the head for each size of the HMI units for the cable connecting the ballasts to the head. Note that the cable size for the 2500- and 4000-watt systems can be identical, since the current requirement is actually slightly lower for 4000-watt than it is for 2500 (the voltage for 4kw operation is, of course, slightly higher).

The logical argument, would seem to us to be that the ballasts should not be removed from the truck which brought it to the location. Since the cables are small, it seems reasonable to consider that the individual cable and its extension be run directly from the truck to the lighting head. This also keeps the input cable to the ballast shorter, since these (120V systems) represent the high current (large cable size) requirement.

This approach means that only the lighting head (the lightest weight portion of the system) and lightweight cables need be adjacent to the photographic site. The adjustment and movement of these units is obviously simplified and made easier where the large ballast need not be moved around with the lights. With properly sized cable, runs of 500 to 1000 feet are completely practical.

Further, there is typically some noise associated with the ballast. Although some of the manufacturers have achieved extremely quiet operation of the standard units, there is a tendency for some buzzing or rattling, particularly in the larger size units. As the ballasts age, more noise can be expected. This is nearly impossible to overcome, based on the type of operation imposed on the electromagnetics of these systems. This represents a further advantage to not taking the ballast with the light.

CONCLUSION

The Lyxdyne approach will permit the full realization of the potential for HMI in professional cinematography. This, without concern for the time-related parameters, or their inter-relationship, for the expected normal range of operation. This LO-MOD ballast can allow HMI to be brought into full use without fear of flicker for cinematographers using the full range of professional equipment normal for the practice of their art in any available AC source, fixed or mobile.

The Luxdyne LO-MOD Ballast Systems are made by: Luxdyne Corporation; 6650 Lexington Ave., Hollywood, CA 90038; Tel. 213/462-7750. ■

TABLE I
Current Requirements for HMI

HMI Lamp (watts)	Ballast Input Current at 120 Volts	Lamp Current (Ballast to Head)	Lamp Operating Volts
200	3.0	3.1	80
575	6.0	7.0	95
1200	12.0	13.8	100
2500	35.0	25.8	115
4000	45.0	24.0	200

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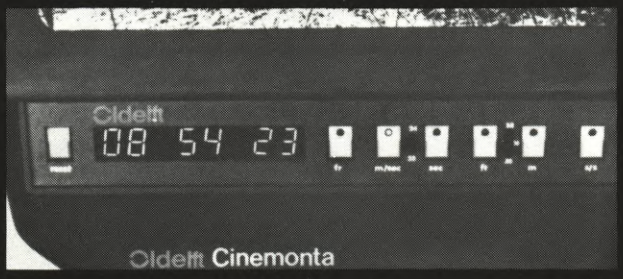

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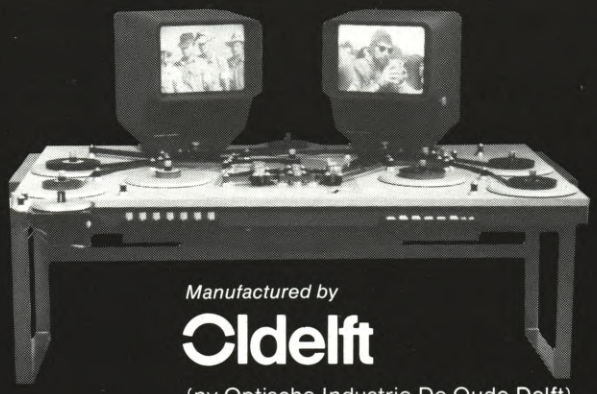

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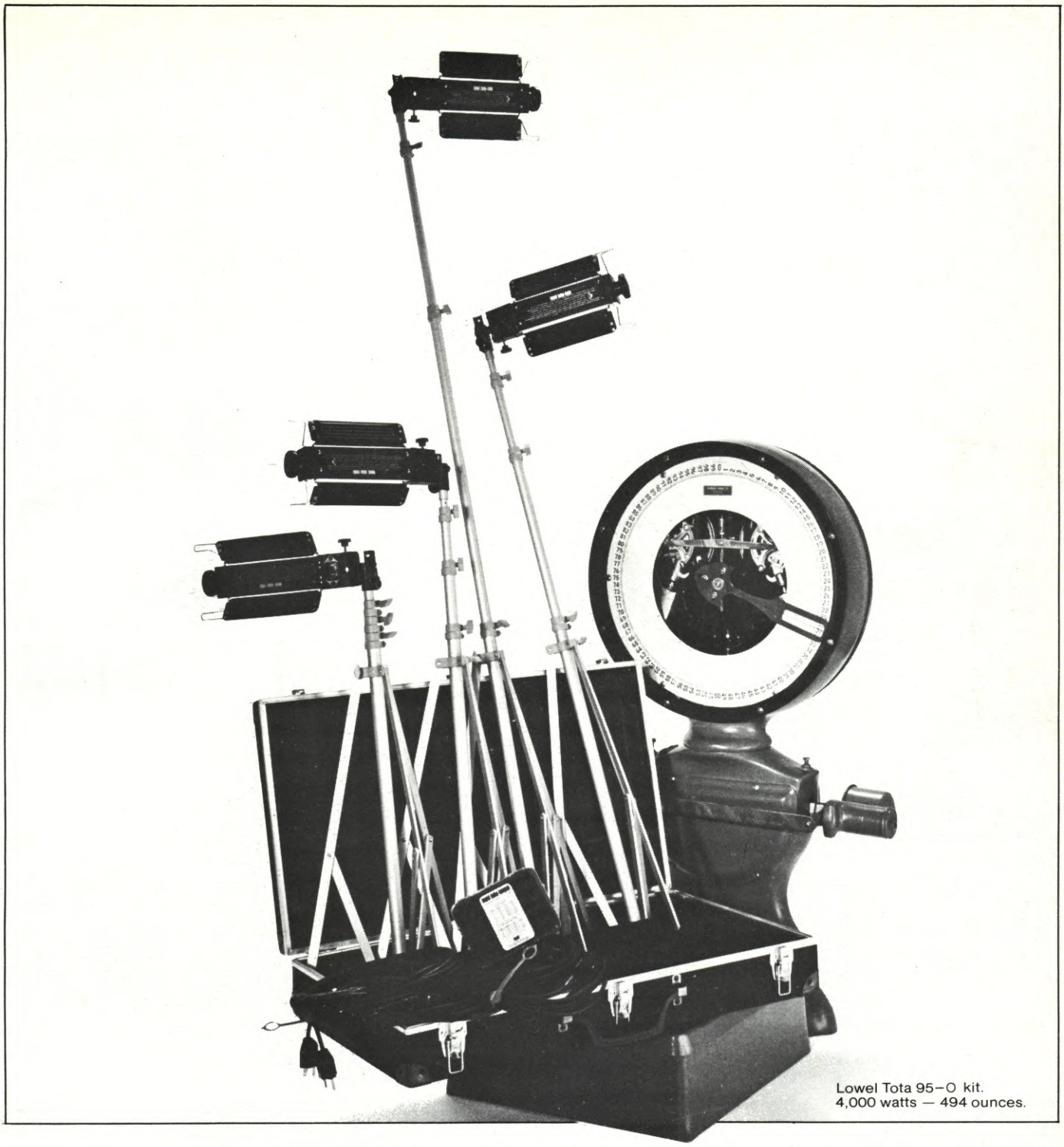

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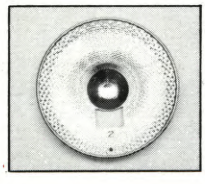

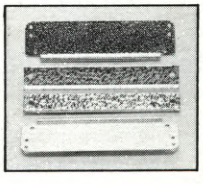

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OUT-OF-THIS-WORLD PRODUCTION DESIGN
Continued from Page 777

intergalactic space flight that are unavoidable, and it's hard, in fact, to avoid some of the idioms which one is almost forced into by the very subject matter—but we made a very honest effort to avoid this.

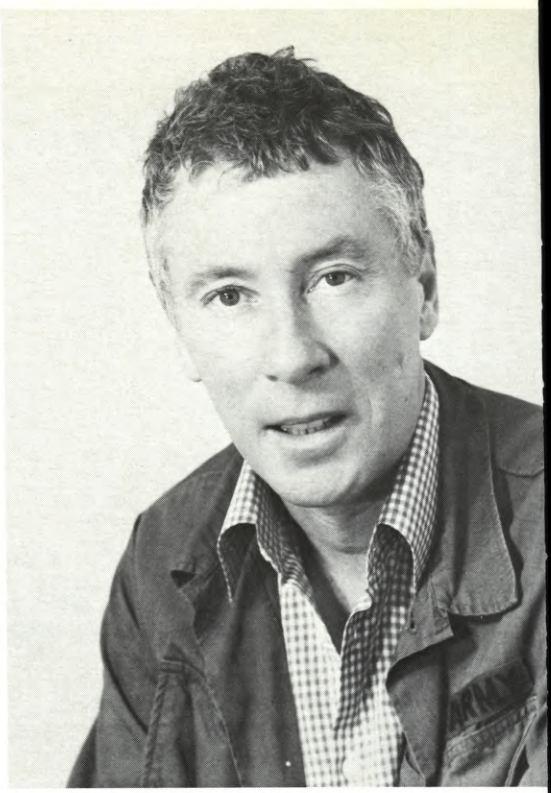
I have great admiration for all of the productions I have mentioned. Something like STAR WARS, which is a very beautiful and complex piece of design, was, we felt, more cosmetic than we wanted. We were trying to approach our subject in a much more *workaday* way. Something like "2001", even after a decade, stands sort of head and shoulders above everything else. That, again, was a very austere, very cold piece of design, and although we have some elements of that in ALIEN, we again tried to avoid direct similarities. CLOSE ENCOUNTERS was, of course, not directly involved with space flight, although it had some wonderfully strange vehicles flashing through the sky—but I think we avoided any direct comparison with those. SILENT RUNNING was a very admirable piece and there are qualities about it that are very, very interesting, but it was all done aboard an aircraft carrier with the sets built into it—which is a very clever idea.

Despite all of our efforts to avoid copying, I'm sure that inevitably the accusation will be made, because on any such ship there will be certain essential pieces of equipment—navigational aids, communications systems, controls for whatever the power sources are. We accepted the fact that there were these requirements and we tried to build a concept for each of them which would look realistic to us.

The bridge, which in the film appeared to be perhaps one of the less complicated parts of the set, was in reality a very rich and elaborate piece, although it was a little difficult to see the geography of it. The auto dock was also very rich and elaborate. The lower maintenance area was very complicated. I mean, they were all quite complicated pieces. I think we had to use our collective imaginations to try to inject some sort of reality into them.

We didn't simply rely on our imaginations, however. We were able to get some rather interesting research material from NASA, from the Aeronautical Museum in Washington, which had rather detailed pictures of Space Lab and assorted things. We also tried to find as much as possible in the way of pictures and photographs of earlier space vehicles, but none of them were particularly large. We had to kind of take elements of them and really expand them. We had various people working with us who had technical or engineering aptitudes and they would suggest various possibilities. We had some very nice, very clever people, all with separate ideas and we tended to pool our ideas into making them work towards the concept.

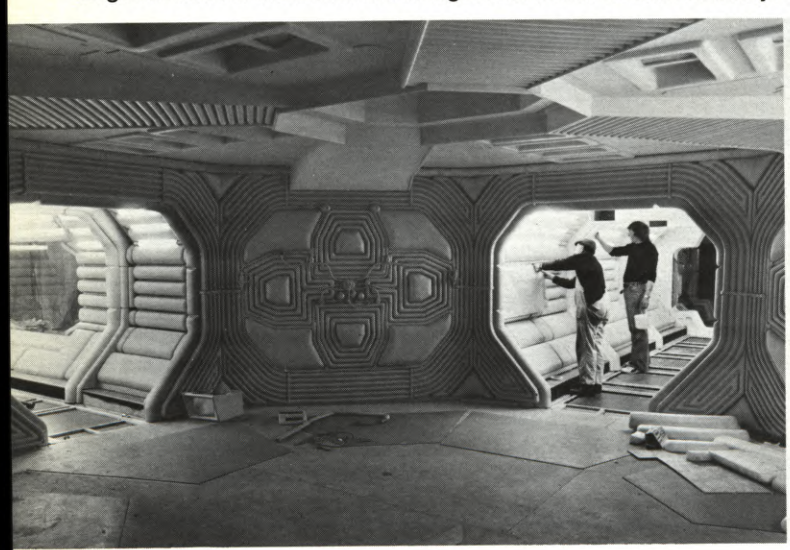
As I've said, our sets were four-wallers, but in every instance I made sure that a set was constructed in such a way that we were able to take out at any time quite large sections of walls, ceilings, whatever—although we tried to avoid doing this. Nevertheless, I know that inevitably a situation arises where one does want to get the camera into a position that is impossible without moving something, so we designed various quite elaborate and complicated ways of floating sections away, and whenever it was required, we managed to do it quite successfully.

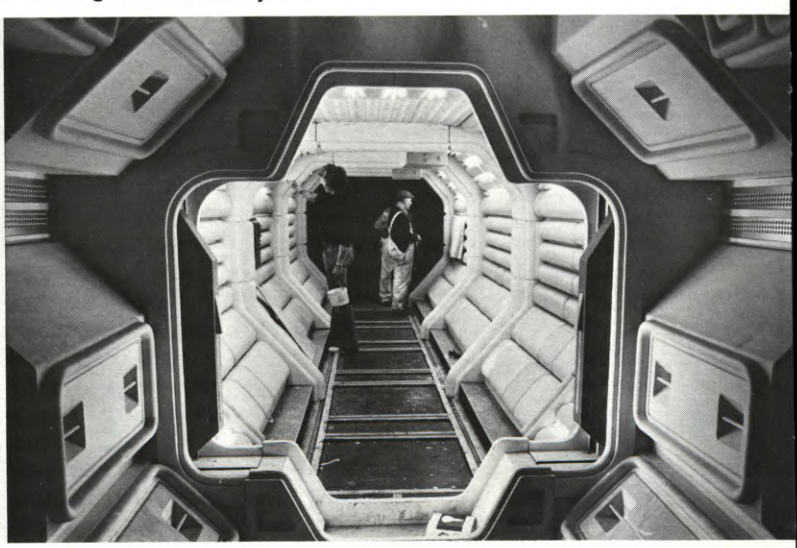


ALIEN Production Designer Michael Seymour had worked with director Ridley Scott on many commercials, considers him "the most impressive director I've ever been involved with."

When it got to the design of the alien creature itself, we had working with us a very nice, very interesting, very clever Swiss artist named Giger. Because we liked his drawings and paintings very much, we had him involved in the whole concept of the alien creature. We wanted him to design an alien creature for us, which he did very successfully, and we

The "A Level" set of the spaceship *Nostromo* under construction. Mazelike in design, it featured many corridors branching off to various areas and was completely four-walled. However, recognizing the potential lighting and camera movement problems of the cinematographer, Seymour, in every instance, made sure that sets were constructed in such a way that they were able to remove at any time quite large sections of walls and/or ceilings. This included elaborate ways of "floating" sections away.

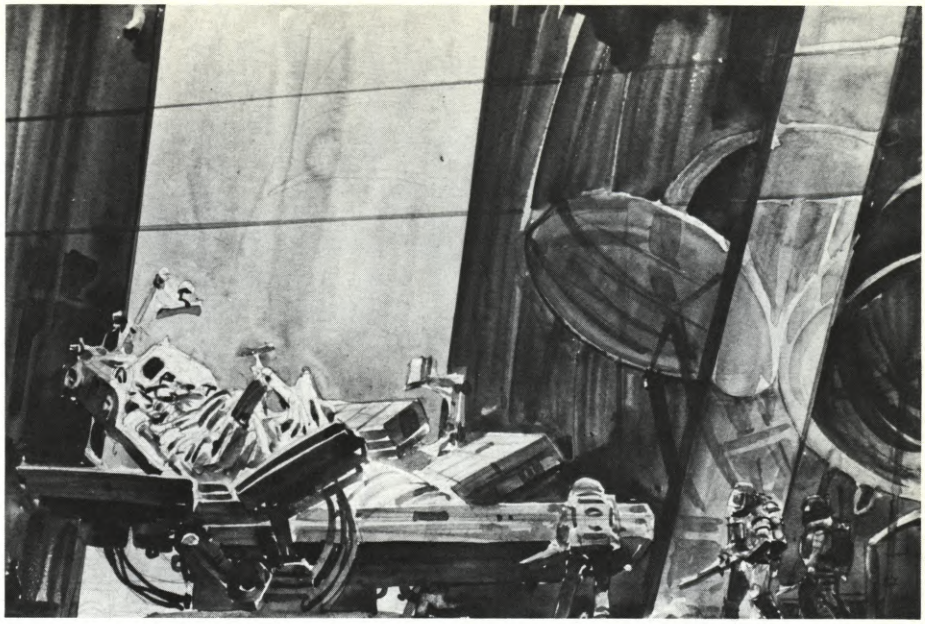




used him to evolve a background for it, which included the derelict spacecraft. This sort of came out of a discussion involving all of us, because we were trying to conceive something which was as remote as possible from what human beings would create. We were trying to invent a set of alien creatures and trying to imagine what they might have used to project themselves through space—the huge alien spacecraft. We made all sorts of models of it, some of which were special effects models. In some sequences we did matte shots over short sections of the set, on others we actually used models and matted further extensions onto them.

The development of the alien creature was a very involved sort of operation. We decided very early on that it would actually go through three phases. The first stage, when it initially appears and leaps from that sort of egg shape and plants itself onto the face of the human, is a curious, grasping, crablike sort of hand creature. We called that first stage the "Face Hugger".

After that first stage has died and left us, we can assume that it has laid its egg inside the human character's chest. So the next stage, which is the creature that gives birth to itself by bursting through the wall of John Hurt's chest, we referred to in our own private language as the "Chest-Burster".



An early rough production sketch for the sequence in which the astronauts, venturing forth onto the surface of the alien planet, come upon the fossilized skelton of the strange creature manning what appears to be a gun. The final design was much refined over this early concept.

When you actually see them on film, the first two stages are quite clear. The third stage (which we called the "Little Rascal") is probably not quite so clear, because right up until the very last sequence in the film, we only allow the audience to see very small parts of it—the head and a sort of crouching version of the character. We never really see it full-length until the last few minutes of the film. So we did aim at three progressions, but that was really a sort of grammar for us to work to.

When we created the final creature, we

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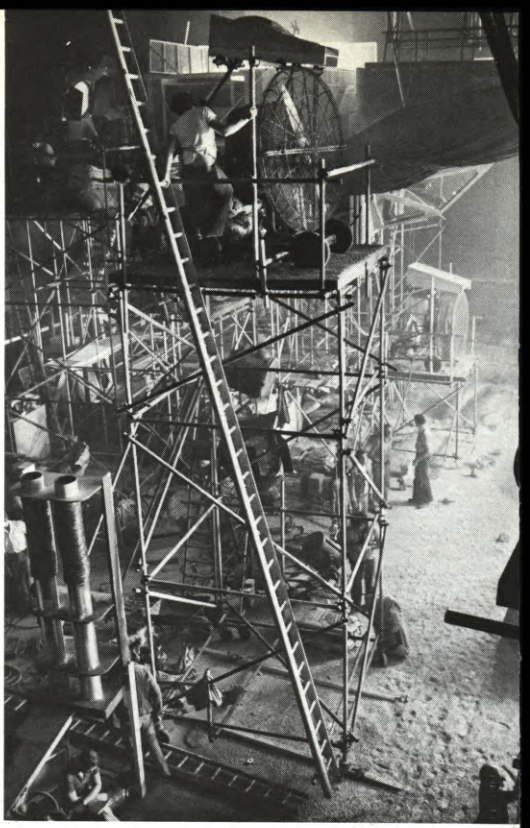
PHOTOGRAPHING "ALIEN"
Continued from Page 770

decided the actual shape of the ship, where the light would be hitting it and how the matte artist would build onto it, was easy to light because of the nature of the surface. We also kept everything wetted down all the time and the 3/4 back to back-light that I was using was absolutely emphasized by the water.

When I first saw the giant derelict vehicle set on the storyboard it frightened the life out of me, but once you switch that first light on, you find that it's the same as any other set—only bigger. While reading the script and seeing the artwork for those giant sets on the planet initially worried me, the real difficulties were encountered in the tight, small setups where people moved around a great deal—especially since you were covering them with two cameras and had television monitors in the scene to worry about.

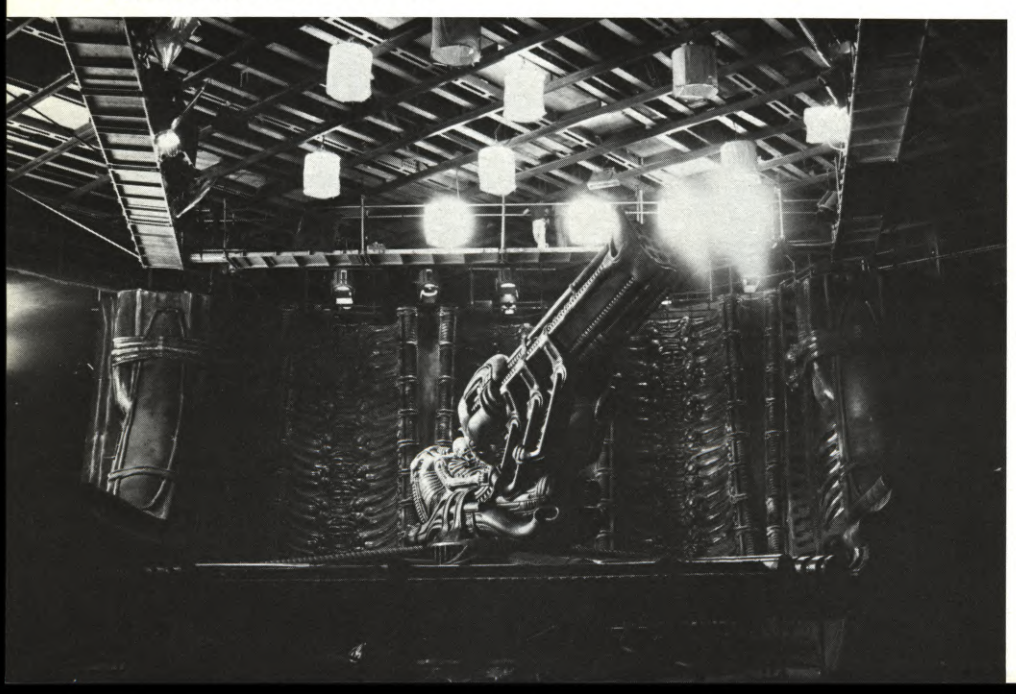
I think that in one or two instances I could have put in a bit more fill than I did, but when I saw Gordon Willis' INTERIORS it made me feel a lot happier to know that there was someone else who was coming down to that kind of key.

During the sequence where the spaceship is blowing up, most of the light was coming from spinner lights, which are like the panic lights that you put on top of your car at night if it is broken down. In fact, they gave me more illumination than the approximately 15 10Ks on trip switches that I had pushing through the side of the grill. They never had a chance to come up to maximum because the grills cut out 60% or 70% of the light, and we were also beaming them through tracing paper to sort of hide the fact that we were using, in fact, packing case grills put together.



A wind machine and other special effects paraphernalia top a tall parallel on alien plant set. Despite huge sets, ALIEN is an intimate story of menace to a small group of people.

Vanlint (behind camera) prepares to shoot a scene among the deadly eggs in the hold of the derelict spaceship. (BELOW) Scenes on the alien planet filled the vast H Stage at Shepperton studios. Skirted general illumination lights are shown in this photograph, but actual lighting for the sequence employed a blend of searchlights and a special unit called the "Wendy Light", a series of quartz lights made up in panels—81 bulbs per panel. It had to be hoisted into position on chains.



For that blowing up sequence I was also using what we call "scissor arcs", which are open arcs with two carbons coming together and being pulled apart manually, without any mechanism at all. They are the lights we use for lightning effects. They produce just a series of flashes, but make a hell of a noise. During that sequence I noticed that Ridley used the sound of the scissors arc for one of the explosions.

Photographically, the final look of ALIEN, especially in terms of light direction, bears no relationship to my kind of advertising show reel, where I use a great deal of diffusion and really go pretty heavily into putting tracing paper and plexiglas in front of my lights. As far as possible, when everything was alright aboard the spaceship, I tried to make the lighting look as though it was coming from natural sources. But when the ship was ready to blow up, the low level and extreme movements made it necessary for me to use more hard light than I normally use. But this was the effect that was required for the mood of the picture, and

Continued on Page 812

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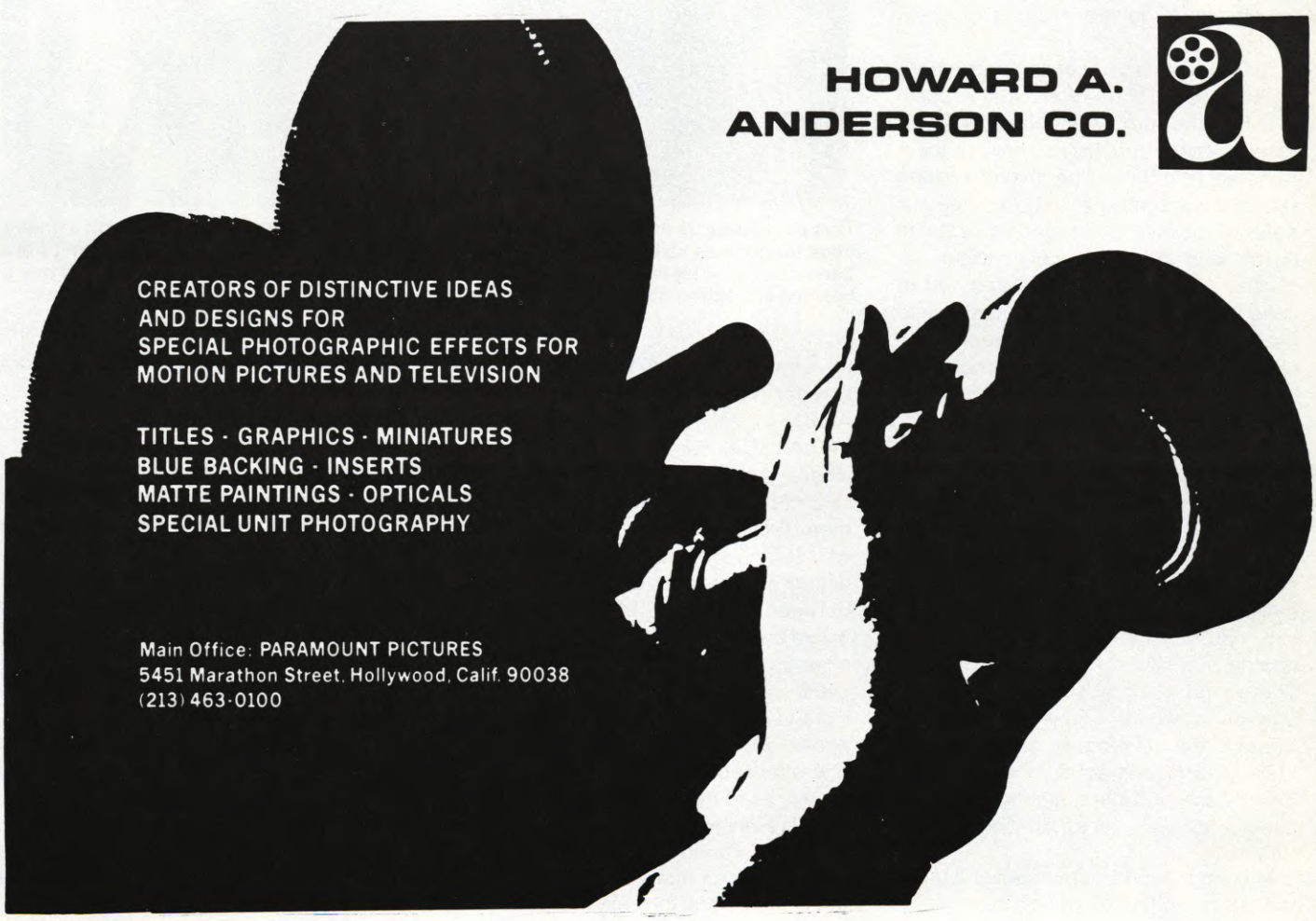


Continued from Page 773

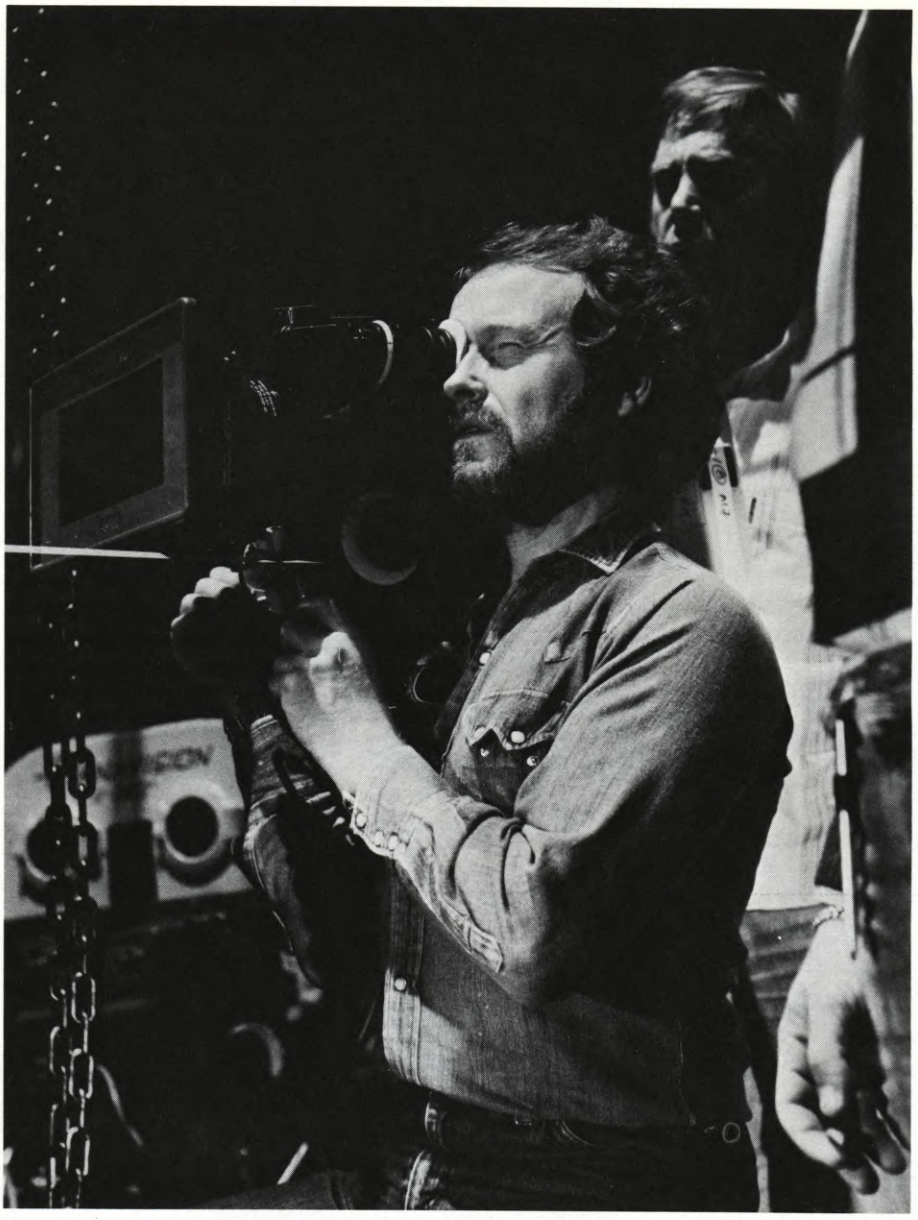
lights and an occasional Brute meant that you had three different types of light and Derek Vanlint was nearly driven mad trying to get the right combination of filters to balance everything correctly. It was murderous, because even going by the book didn't quite work out. We went through two or three weeks of just having someone standing in the corridor, changing the whole combination of lights and filters, but we could never quite get a satisfactory balance; it was always a little off.

Also, my ideal notion that, by lighting the entire set, you could put an actor anywhere in it and, with a little bit of flagging, be ready to shoot just didn't work. It started to look as though we were shooting TV. Both Derek and I were unhappy that we just weren't getting what we wanted visually, and also we were tending to throw away a lot of the niceties of the set. So we just went back to normal shooting, which was basically: *find your setup, have whatever bulb combinations you wanted for set purposes, but light the scene with more conventional equipment.* Frankly, I prefer that method—and certainly for a project like this. It was better than trying to out-think ourselves simply to move along at great speed.

To Derek and me—coming from where we have come from—the visual aspects of a film are terribly important. They're not everything, but they're a hell of a lot. A cameraman ought to be involved in the sets, but frequently he isn't. He often just walks in, looks at the set and lights it. But Derek was drawn into everything, including colors, textures and that sort of thing. In the filming of commercials we're used to incorporating everyone into the planning process, so that everybody will know what everybody else is doing and everybody will be working off everybody else for the visual aspect of whatever the subject is. That's a honing process, and it's as important to me as the actors and the script.

There is an immense schedule pressure in the making of feature films, but the process of feature-making is, by its very nature, slow. The more you go for quality, I'm afraid, the slower it gets. There's no point to shooting simply to stay on schedule. You've got to see it through the viewfinder, and if it's not there you haven't got it. That quite frequently can become a nightmare for the director as well as for the cinematographer.

Making a feature is marvelous, I think, but it's a nightmare while you're doing it—a sort of love-hate process. It was that way for me and for Derek, as well, on ALIEN. I think it's very important to have the sort of relationship with a cameraman where you can go into the corner and say, "It's not working today, is it?" You can then discuss it quite calmly and find out why it isn't working, what you're doing wrong. It is usually a very private thing between these two individuals only. It would be frustrating to have such discussions with actors sitting and waiting, but I've discovered that the best way for me to work is not to have the actors near the floor at all when I'm lighting. I'd rather just have them out of the way, in their dressing rooms reading or sleeping, because there's nothing worse than having actors standing around and waiting. It drains them. You can see the adrenalin falling out of them while they are hanging about, so we are usually very careful about scheduling actors in.



This photograph is not the usual director-with-camera pose, because Ridley Scott actually does function as camera operator as well as director on his films, literally directing from behind the lens. He is especially adept at hand-held cinematography. Much of ALIEN was a two-camera operation, with Scott operating one camera and Derek Vanlint the other.

In the making of ALIEN we were, of course, confronted with something more than actors. Once you accept a script like that, the next question that comes up very fast is: What form is the creature going to take? In this case the problem was made four times as difficult, because the Alien changes in varying degrees on several occasions. Therefore, you were dealing, in this instance, with four different entities. One could argue for months about what shapes they were going to be.

We went and saw visuals of what had been done before, where you get the old Blob crawling across the floor, or a dinosaur with claws and bumps and warts, and I said, "Oh, God—it can't be that!" But the form that the Alien would take

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BEHIND THE SCENES
Continued from Page 766

cate video-centre, with numerous banks of circuits and electronic equipment, ingeniously made up from old aircraft, automobiles, radios and television sets.

"We must have spent thousands of pounds on scrap from old jet aircraft engines particularly," said Les Dilley, co-art director with Roger Christian. "And it's paid off handsomely because it all looks so authentic." Dilley and Christian, incidentally, both won Oscars for their work on STAR WARS—Dilley as co-art director and Christian as set decorator. ALIEN costume designer John Mollo also won an Oscar for his contribution to STAR WARS.

Walking down a corridor from the bridge, one comes to the mess room where the crew eat and relax. There is a small kitchen area, with various foods in powder form neatly capsuled and easily identified by tiny models of food, e.g. a miniature banana, orange or apple. Unbreakable crockery is neatly arranged on shelves and there is a sink, too, since even astronauts have to wash up.

A stroll down another padded and illuminated corridor brings one to the infirmary, equipped with drugs, an operating table which glides out of sight into the wall and a full set of surgical instruments suspended overhead.

In another section of A level is the remarkable "hyper-sleep" area where the crew can sleep for extended periods of time in flower-petal-like, perspex enclosed beds. An intersecting lobby houses two large, perspex fronted wardrobe cases, containing spare space suits for the crew, complete with helmets and other accoutrements. The Nostromo's movements are guided by a remarkable computer which the astronauts call "Mother" because its official technological identification is "MU/TH/UR/6000 . . ."

Later sequences for ALIEN were filmed on the two lower levels of the Nostromo, built separately on other stages: B level, the general maintenance area, and C level, containing the vast engine rooms plus a seemingly endless network of complex machinery-filled corridors and the giant "claw room," into which the huge landing claws of the starship retract when not in use.

The basic plan of these complicated starship interior sets allows one to actually walk from corridor to corridor, from bridge to mess, from mess to infirmary and so on, thus giving the actors and the audience the feeling of being inside a vast spacecraft, both huge and claustrophobic at the same time. Says production designer Michael Seymour, "We

wanted people to have the impression that it's a real place, that it's more science fact than science fiction, and also that the whole place is well used, lived in and slightly battered after years of service."

Working with director Scott, special effects director Brian Johnson and supervisor Nick Allder were in charge of the highly complex and technical work that goes into the breathtaking sequences of starships hurtling through outer space amidst galaxies of stars and planets.

The main model of the Nostromo measured eight feet in length, which represents eight hundred feet in the story. In the film, the refinery that is being towed is one and one half miles across. "With our special techniques," says Allder, "we're able to camera-track right through space, stars, planets and so on, up to a closeup shot of the craft and actually show the astronauts moving about inside—and all in one continuous shot.

"We also use the system of 'rotascoping' quite a lot, which involves taking a sequence frame by frame, making line-drawings, then hand-printed mattes, then shooting that in high-contrast, to actually create our matte and eventual effect. If all that sounds complicated, then it is. Except to the 'sfx' technicians who know exactly what they're doing." ■

Continued from Page 806

it was vastly different from anything I had done before. I was quite pleased with the finished result.

In the communications room of the spaceship, where Tom Skerritt talks to Mother, there were I forget how many thousands of little bulbs covering the walls, and the actual color tone was governed by the bulbs we were using in there. They were well down in color temperature—somewhere around 2000°K. I came in through the ceiling with something like a 1000-watt lamp diffused through tracing paper and with a half-MTA gelatine to keep it kind of yellow, so that it looked like the room was lit by the actual small bulbs. I put very little additional light in there, but we did put the image from a 16mm projector onto the faces of Skerritt and Sigourney Weaver while they were in there, in order to simulate the reflection from a television monitor. It was a piece of film with a few numbers on it and a lot of black and splashes of varnish.

For the sequence showing the eggs in the hold of the derelict vehicle, we used a kind of general light and then put a laser across the top of the place and a lot of smoke into the set. Then we took the camera up and down through the laser beam. It was great fun, but I wish we'd had a bit more time to experiment. The sequence was shot right near the end of the schedule when time was short and we had people on our backs to get off the set so that they could revamp the eggs. One of the eggs had a top that opened for a hand model to come through with a few pounds of liver and a sheep's stomach and things. The special effects people, and David Watkins in particular, seemed to absolutely thrive on that sort of thing.

There was a separate egg that we played around quite a bit with, trying to get the shape inside it to move. We bought a hand puppet in rubber with claws and we put it on a platform so that I was able to get a light underneath it and behind it. It frightened the life out of me when I saw it in the rushes.

When we did the chest explosion for the first time (the sequence at the beginning of the film that special effects did so well) we showed some pretty hairy things. It's the first time I ever had to walk out of rushes and, funnily enough, it was the footage from the camera I was shooting. It was just the welter of blood that got all over Veronica Cartwright when the creature came through the chest that I couldn't take. I went out and was rather ill—and I was ribbed quite a bit about that for the rest of the picture.

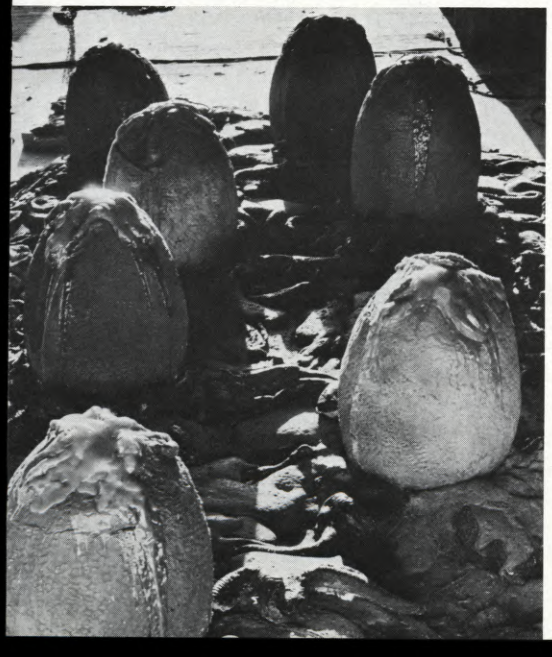
I had a very short time before shooting started to do tests, but I did very little more than test equipment, because the sets were not finished until the day we actually started. The stuff that I had pre-rigged, unfortunately, had to be moved out because ceilings had to be dropped in and there were masses of carpenters and painters at work.

Our first sequence, after the characters had awakened and come out into the cabin of the spacecraft involved tucking 500-watt and 1000-watt spotlights under seats and the poor devils who were acting had to climb over these lamps and, at times, must have got their knees very, very warm, but they were quite good about it.

The Alien sequence in the escape craft I photographed with a CSI spot with a dimmer on the front. It was a direct spotlight to give a general strobe effect. Also, if I remember correctly, I was using about four of the ordinary strobe flashlights—all of them fixed to a kind of very, very small stomach dolly to give an out-of-sync, random strobe effect. So it was a mixture of half-frame exposures and full-frame exposures, but not at any particular time interval. I thought it looked very, very good in the escape vehicle when the creature climbed out of the wall. It was a bit difficult for people to work in, because they ended up getting quite dizzy over a period of time. I remember that when we were setting up in the escape vehicle we had to switch them off, because they were the principal source and one became very, very dizzy with them.

Photographing ALIEN was for me a unique and challenging experience, but also a stimulating one. The audiences seem to be responding to the film as we had hoped they would, and I'm quite pleased with the result. ■

The deadly eggs of ALIEN, one of which, triggered by eager special effects technicians, unleashes a lethal horror to slaughter the astronauts.



A VISIT TO THE FILM INDUSTRY OF CHINA

A delegation of American motion picture technicians travels to China to meet in friendly session with their Chinese counterparts so that they may compare technologies and learn from one another

By MILTON FORMAN

It all began with a telephone call from Washington, D.C. The message was: "The Ministry of Culture of the People's Republic of China invites you to visit China as a guest of the Chinese government."

The group consisted of Sidney Solow, Chairman of the Executive Committee of Consolidated Film Industries, three officials of the Society of Motion Picture and Television Engineers (headed by Robert Smith, President), and myself. Mr. Paul Yang of Paul Yang Associates, Pasadena, California, was the coordinator between our group and the Chinese film executives.

The first two weeks of our stay in China included touring three cities: Beijing (Peking), Hangchow and Shanghai. In addition to a certain amount of sightseeing, the group was given complete tours through all of the film studios, television stations and film processing laboratories in Shanghai and Beijing. Then the representatives of the SMPTE left China. Sid Solow and I were asked to return to Beijing for in-depth meetings with managers, technicians and engineers active in laboratories, stage and equipment design, film production and research.

Milt Forman with his immediate hosts: (left to right) Mr. Ti Chih-Chieh, head of Film Bureau, Ministry of Culture, Peking; Mr. Ma Shou-Ching, Vice Director of the China Film Science and Technology Research Institute; Mr. Ho Chao Chang, Chief Engineer of the Film Bureau, Shanghai. (BELOW) Mr. Forman checking the characteristics of a 4KW HMI light made in Shanghai.

Meetings With Film-makers from All of China

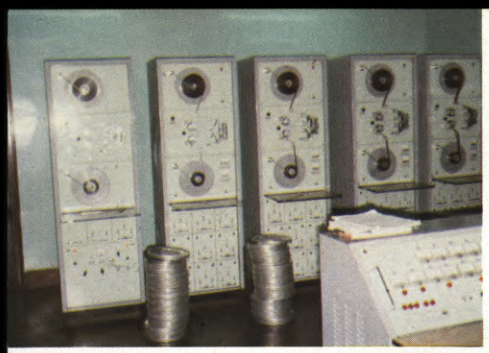
What Mr. Solow and I did not know was that the Chinese had brought to Beijing film-makers, engineers and laboratory people from all over China—about 400 in all—to participate in the discussions. The meetings were divided into two groups. Mr. Solow was to work with one group—personnel and managers involved in laboratory and associated problems. I was to work with the other group—engineers and technicians involved in stage and equipment design, film producers, production planning people, cinematographers and representatives of the Beijing and Shanghai Film Bureaus.

I do not know the details of what happened in Mr. Solow's meetings. He will undoubtedly report on this at some later time. I do know that he came back to the hotel each evening tired, but inspired by the vitality, curiosity and knowledgeability of his audience.

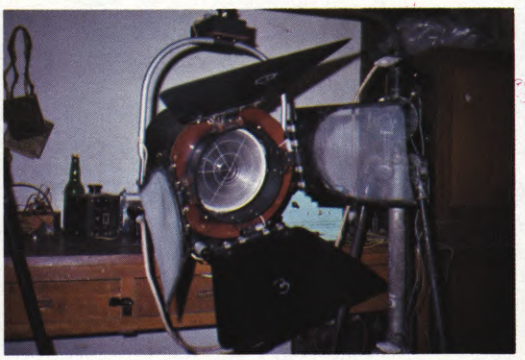
A Tough Schedule of Meetings

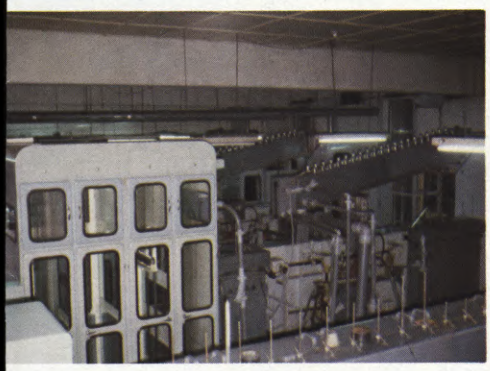
My schedule ran as follows: I was picked up at 8:30 a.m. and taken to the Peking Film Studio. At 9:00 a.m. promptly I opened the discussion with comments on a mutually agreed-upon list of subjects. This usually took about two hours (which included the time for translation by extremely skilled and knowledgeable interpreters). Then a break for lunch. This was followed by four hours in the afternoon of questions and answers. The morning session involved more than 100 men and women gathered in the same hall. The afternoon session involved about 40 people who met in a small room and participated in the questions, while a loudspeaker hook-up carried the discussion to the rest of the Chinese group in another room.

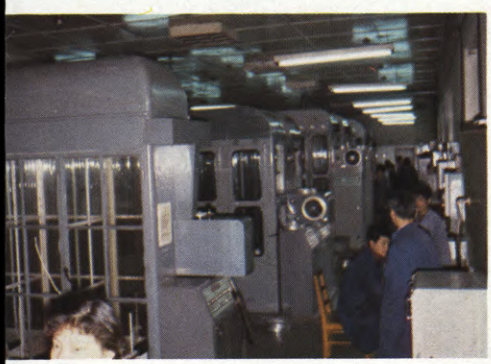
All of the sessions were recorded with Nagra equipment. We later found out that the Deputy Minister of Culture, Mr. Seto, listened to the recordings privately and, from his comments at the final banquet, it was obvious that he was well acquainted



(LEFT) Sound recording equipment at the Peking Studios, manufactured in China. (CENTER) Arriflex IIC camera being used in filming of regional historical drama in the Shanghai Studios. (RIGHT) Arriflex 35BL being used for filming the Peking Opera in Peking Film Studios. (BELOW LEFT) Sound mixing equipment manufactured in China. (CENTER) Completely motorized remotely-controlled light, designed and manufactured in Peking. The Peking and Shanghai research Departments have independently designed motorized lights. (RIGHT) 1200-watt HMI-type light being demonstrated to Milt Forman by Mr. Yan Chung-fang.

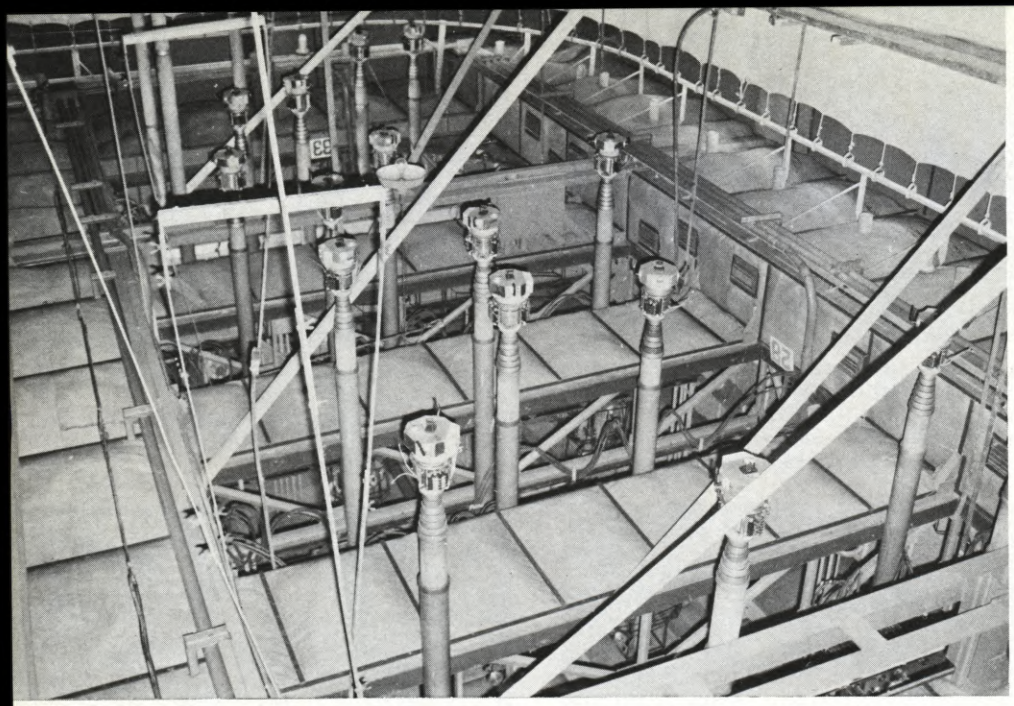




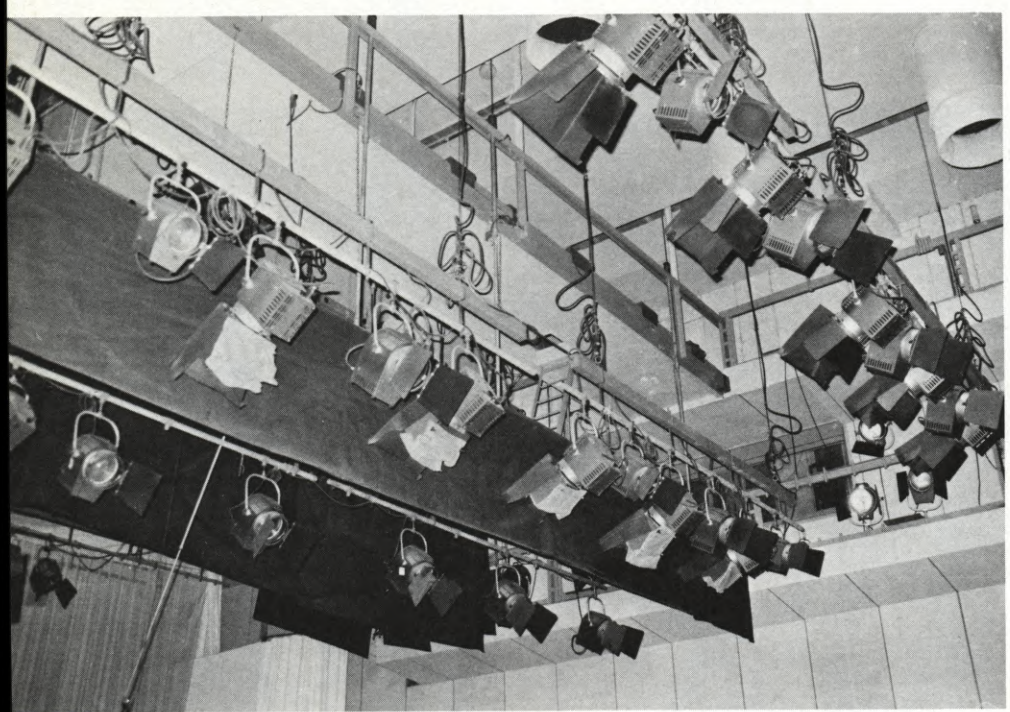


Milt Forman making the opening remarks during the morning session of one of the series of meetings that extended over a period of eight days and covered every aspect of film-making. In all, about 400 film-makers, engineers and laboratory technicians from all over China were brought to Peking to participate in the discussions.

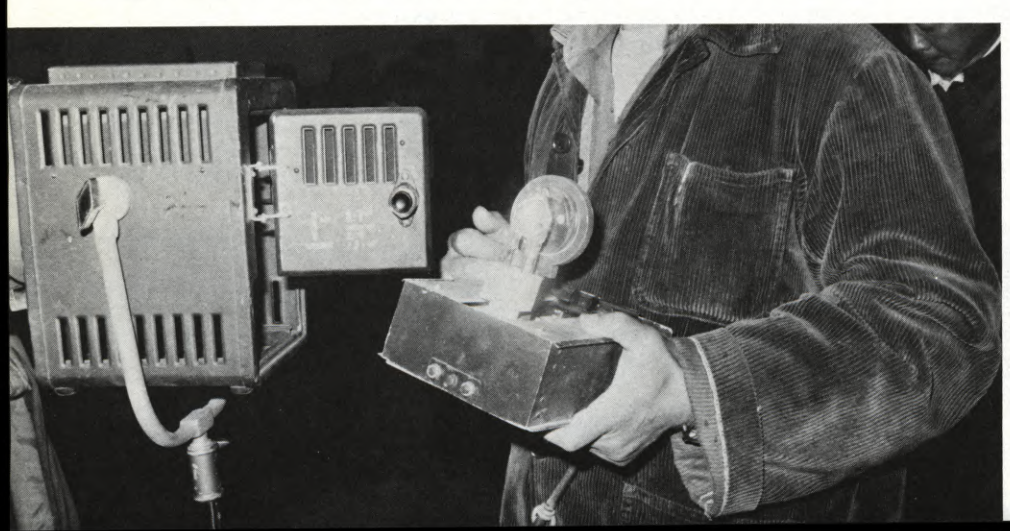
(ABOVE LEFT) Two views of the Dye Transfer Film Processing Plant installed in Shanghai by Technicolor of England. (BELOW LEFT) Taking a lunch break at the Peking Film Studio. Mr. Wang Yang, Head of the Peking Studio (center); Mr. Ma Shou-Ching, Vice Director of Film Science and Technology Research Institute (left) and Milt Forman (right). (CENTER) Scenes from the Peking Opera, being filmed in the Peking Film Studios. (RIGHT) Scene from a folk drama, being filmed in Shanghai.



Telescopes (or monopoles) mounted from the upper grid of a film stage in China. The telescopes are made out of pressed fiber and are much lighter in weight than the type supplied in Europe. The lights have not yet been mounted on telescopes.



Chinese television stages are similar in design to standard stages world-wide. This stage in Shanghai used battens to raise and lower lights which were made in China. (BELOW) A 1200-watt experimental HMI-type lamp. Note that it is a bi-post. It is mounted in the firing circuit assembly and requires a small lightweight ballast.



with what had transpired.

The film-makers who participated in the discussion came from newsreel, documentary, science and feature film studios, the China Film Technological Research Institute, the Central Film Bureaus of Shanghai and Beijing, the processing laboratories of Beijing and Shanghai, and the film studios of Sian, Chengtu, Canton, Inner Mongolia, Urumchi, Changsa, Nanning and Changsun.

Desire to End Isolation

The thirst for information indicated by the Chinese film-makers was insatiable. Among the things they wanted to know were:

Details on how the American studios operate.

The relationship between the major studios and the independent producers.

The relationship between the independent producers and the distributing organizations.

Details concerning budgeting and planning of films.

How much attention is paid to pre-production, shooting and post-production?

How are American film-makers trained?

How do young film-makers get their chance to break into professional film-making?

What is the relationship between the labs, studios and film producers?

How are our stages designed?

Who does technical research and how is it done?

Does the United States government support the film industry?

What is the role of the American Film Institute, and what roles do the university film schools play in training film-makers?

What is the level of technology in special effects?

You name it . . . and they wanted to know the details. Unfortunately, we had no prior notice that all this information would be desired. Had we known, we could have brought along slides and considerable documentation. However, when we had finished with the discussions, they expressed satisfaction that they had received a good overview of the state of the art of film-making and laboratory processes in the United States. They felt that some of our experiences would help them make decisions concerning their plans for the future.

Interest in Production Details of THE DOVE

In 1974 I was Associate Producer for Gregory Peck in the production of a fea-

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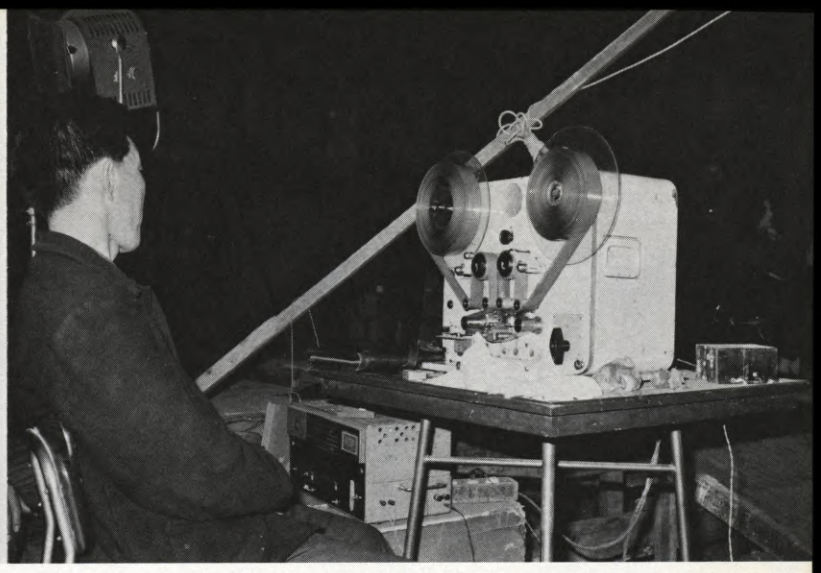
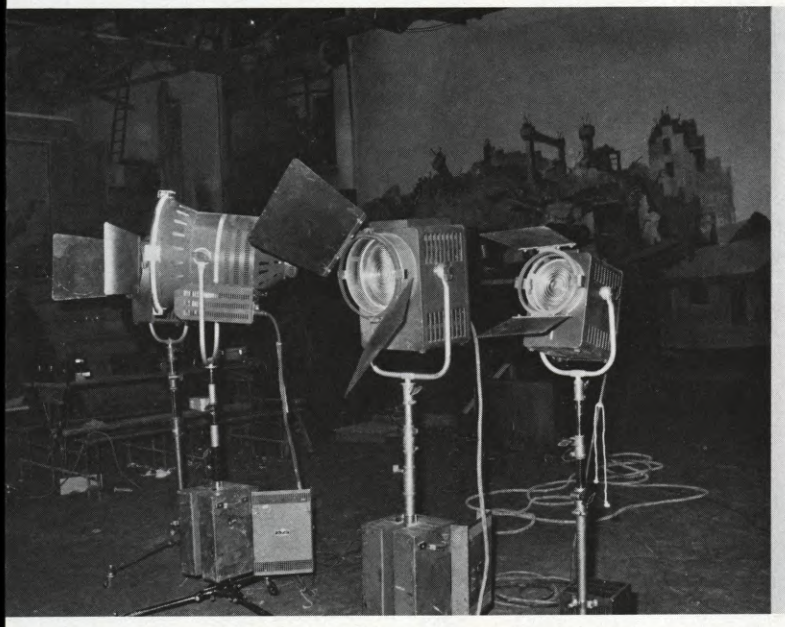
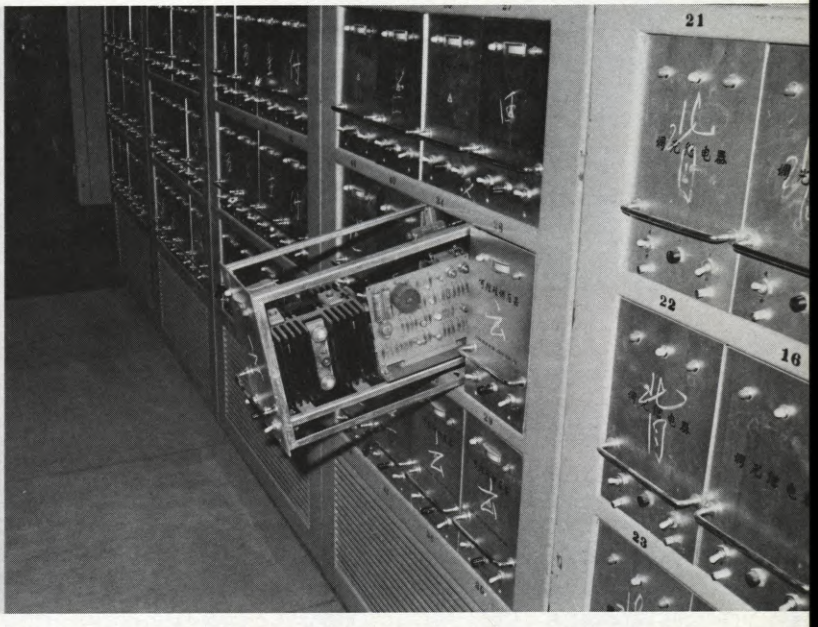


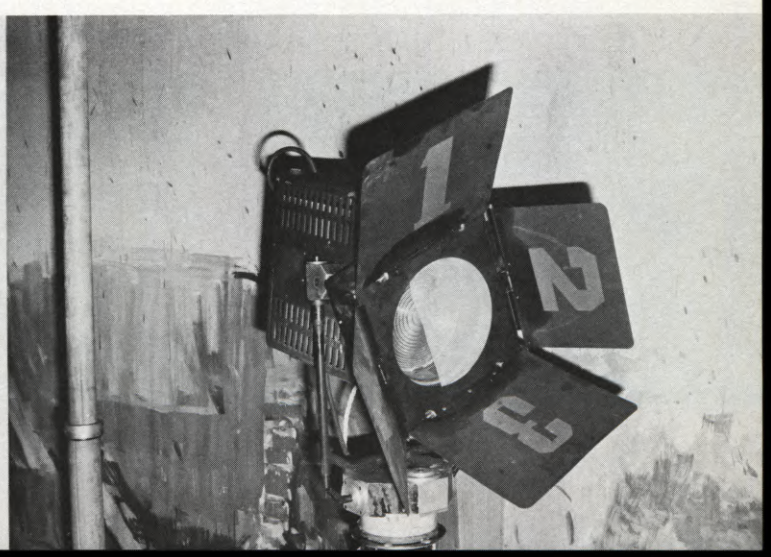
(LEFT) Mr. Yang Chung-fang of the Research Group of Light Sources of the Shanghai Film Studio demonstrated the battery-operated dual-HMI-type light. Note the small size of the battery and ballast. (RIGHT) The music and singing for the Peking Opera were recorded on the optical track of sprocketed 35mm film then played back on stage during shooting. The performers were filmed as they played in synchronization to the music, in standard "playback" fashion.





(LEFT) Experimental HMI-type lights. From left to right: 4000 watts (non-fresnel), 2500 watts and 1200 watts. Note the small size of the ballasts, which are relatively lightweight. All are operated on D.C. and are "flicker-free." (RIGHT) Solid-state electronics dimmers used for the control of lights and dimming in the Shanghai Television Studios.

(LEFT) A stage of the Peking Film Studio rigged for shooting. Mr. Forman felt that it looked very much like older-type Hollywood stages currently in use. (RIGHT) A motorized, remotely-controlled 5KW light. The four barndoors are individually controlled for single and double scrims, panning, tilting and precise focus. In addition, the lights can be remotely raised or lowered. They can be controlled for light output individually or in groups.



EFFECTS FOR "AIRPORT '79"
Continued from Page 781

target plane towards the airborne Concorde. This involved 16 scenes that demonstrated the evasive maneuvers utilized by the Concorde to avoid being hit, ending with the rescue by the two F-15 fighters which blow up the missile in the nick of time.

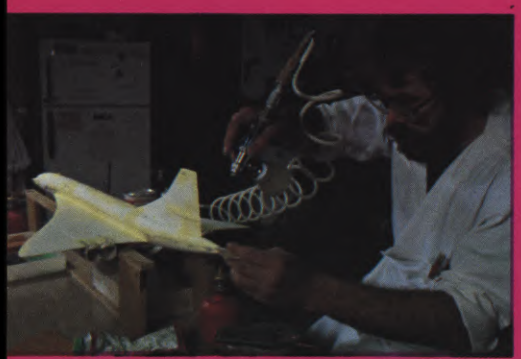
The fourth sequence dramatized the plight of the out-of-control Concorde caused by another attempt devised to bring the plane down. This leads to the scene which forces the emergency landing on the snow covered Alps. There were also 16 tie-in shots throughout the story and several fly-bys.

Because of several other projects in the facility, the AIRPORT '79 starting date was March 5. Long before that date, the model shop was working hard on three Concorde models, three F-4B Phantom models, one F-15 model, one Mirage, and one drone missile. When the production schedule was submitted by our non-compromising production coordinator, Wini Hervey, it was determined that provided that the majority of models were finished by April 2, we could start shooting on that same day. We had a total of 58 stage shots, consisting of 74 stage elements.

I chose three stages of the four—1, 2, and 4. With two stages always working full capacity, we could average one stage element from each stage per day. Each stage had to put out 28 elements in 43 days. Our cut-off date was May 18, thus allowing rotoscope and optical 12 days to meet our May 31 deadline.

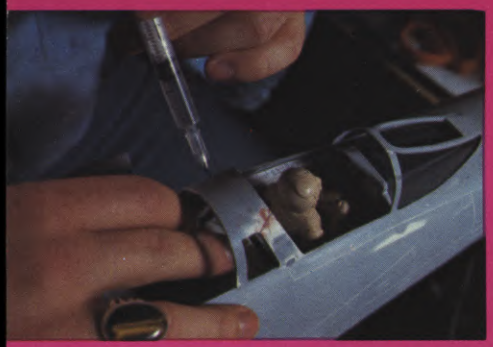
The tests had to start at the beginning of March and all the conclusions drawn by the time production started. We had major problems to contend with, many of them unknown to all of us and they had to be solved. Testing is like starting a journey in the dark and hoping you are on the right pass by the morning.

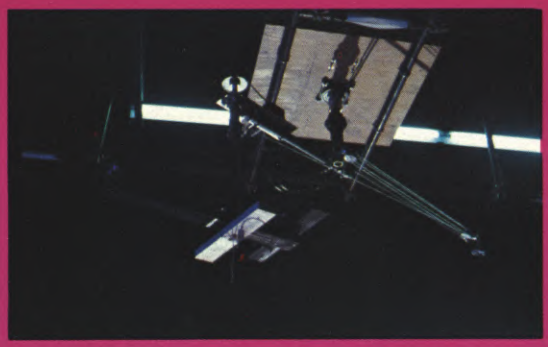
The first major obstacle we had to overcome was the blue spill onto the pure



(LEFT) Chief Modelmaker Pete Gerard uses lacquer tough-up gun to spray special yellow primer onto the Concorde. (CENTER) Gerard uses high-strength filler to bring about subtle changes and repairs on the surface of the Concorde. (RIGHT) Detail wizard Ken Larson with a nearly completed Phantom model. (BELOW LEFT) The crisp scribe lines had to be constantly maintained throughout the finishing stages of each model. Here Mike Joyce attends to a tiny detail. (CENTER) Every detail was carefully scaled from original photographs and drawings. Pete Gerard outlines a landing gear cover flap. (RIGHT) Modelmaker John Curtis installs miniature pilot figure in F-4 Phantom model.

(LEFT) Modelmaker Mike Joyce uses one of many specially made carbide scribing tools to outline a detail on the side of the Concorde model. (CENTER) Abe Milrad and Assistant Editor David Hill confer on the syncing of multiple elements to be combined for a composite shot. (RIGHT) Most of the graphite/epoxy aircraft miniature for THE CONCORDE-AIRPORT '79 weighed less than 18 pounds, including their hollow steel armatures.





(LEFT) Ethylene dichloride is being injected into a seam to bond thin layers of polystyrene to the inside of the cockpit. Most of these aircraft models included meticulous detail, even to the pilot's switches and instruments. (CENTER) The special filming rig mounted from the ceiling on Stage Four of Universal Studios Special Effects Facility. (RIGHT) The rig, seen in the mirror on the left hand side of this photograph, with its electronic drivers being tested by Assistant Cameraman Chuck Schumann.

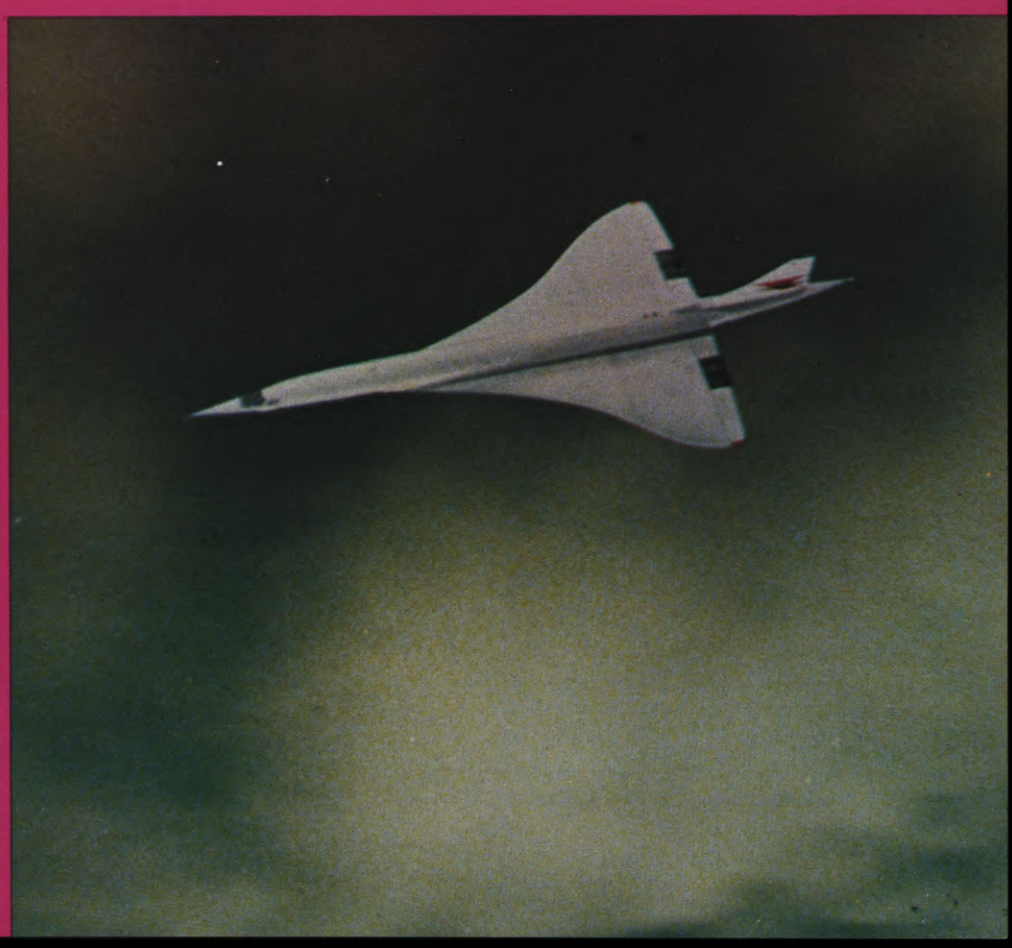
(LEFT) Modelmaker Sean Casey removes cast epoxy Concorde model from rubber glove mold, which reproduces much of the fine detail, as well as the exact form, of the original. (CENTER) Color wedges being finalized by Milrad. (RIGHT) Finishing touches are applied to sketch of Phantom jet, which will serve as guideline for detail work. (BELOW RIGHT) The final product of all the blood, sweat, tears and energy expended: portion of a blown-up frame showing the graceful Concorde speeding through the clouds (with nary a trace of yellow or wires).

white Concorde SST model plane. We were limited in the distance between the blue screen and the model and, even at the greatest distance, had an unacceptable blue spill which created a problem for the optical composite.

After endless testing with various color combinations, we finally started to get some results. We came to the conclusion that the Concorde model had to be yellow. After color correction using various filters, the optical department got great results, a pure white Concorde—exactly the way the real SST plane looked. A major breakthrough!

At the following production meeting when the test results were presented to the heads of the model shop, the murmur was "a yellow Concorde?" It was hard for them to accept the unreal color of this beautiful model plane which Mike Joyce had labored on for many days and nights from its impeccable molding by Sean Casey to the most minute scribing details. But after seeing the optical results they had to agree—a yellow Concorde.

At every stage of testing, we had heroes who came up with the right ap-



proach and one-by-one problems were solved. One case was the clear canopy of the planes. This problem was resolved by the combined efforts of Bob Bailey and Tim McHugh. How to shoot the clear canopy plane against a blue screen was a problem that caused many of us hours of sleepless nights. After two weeks of testing various surfaces, we found out that we were on the right track. Several days later, the problems were narrowed down and the perfect technique was achieved.

Over and over at meetings I kept insisting that the deadline was nearing and the models had to be finished soon. Unforeseen problems started to make their completion date questionable. The thing I feared most was having three stages with full crews and no models to shoot.

At a crucial meeting with Peter Gerard, head of the model shop, and David Jones, head of design, the fear turned to reality. No way would the models be ready. In order to save time, I then made what was proven to be a most important decision. We would pull foam ships that would have the same armature as the "real" models and do all the programming moves with the mockups while the models were being completed.

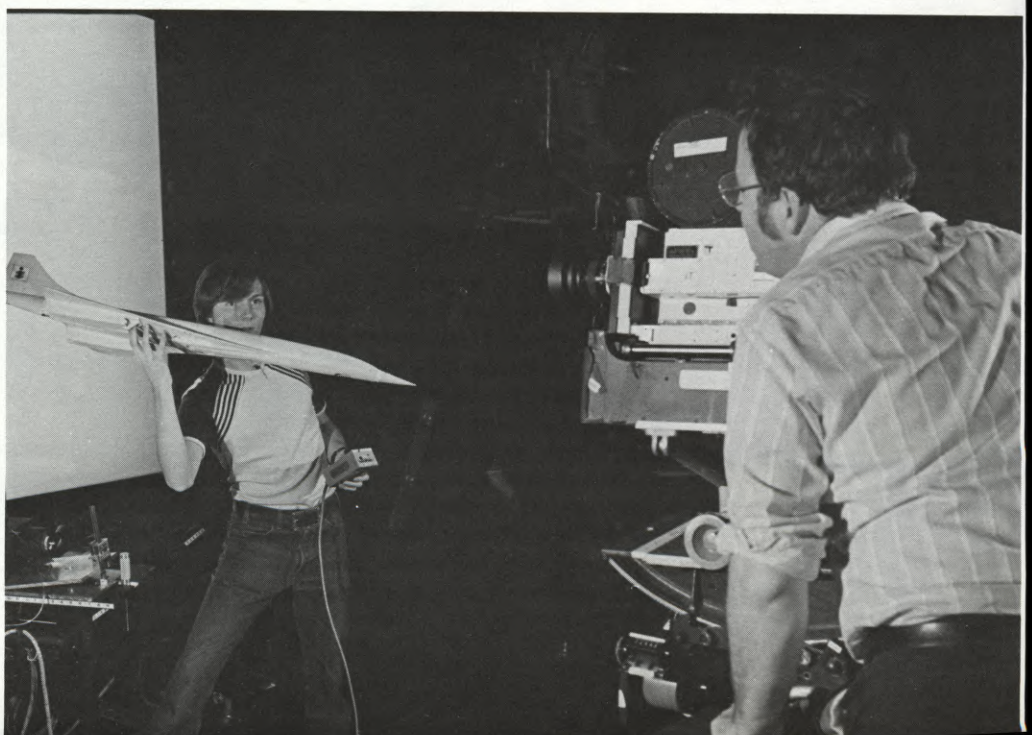
Since my nervous tension was a "bit" above normal, I would walk around through the various departments—especially through the model shop, where my walk-throughs were received more like a mother-in-law's visit. It was brought to my attention one day by Peter Anderson, the indefatigable production manager of the facility, that I made the model makers nervous by looking over their shoulders. I then took a vow that until the effects were done, the model shop was off-limits to me.

I didn't know how hard it would be not to go into the star's dressing room—in this case, the domain of the airplane models in the shop—and had to depend entirely on secondhand reports. I never got used to it, but the models were finally finished.

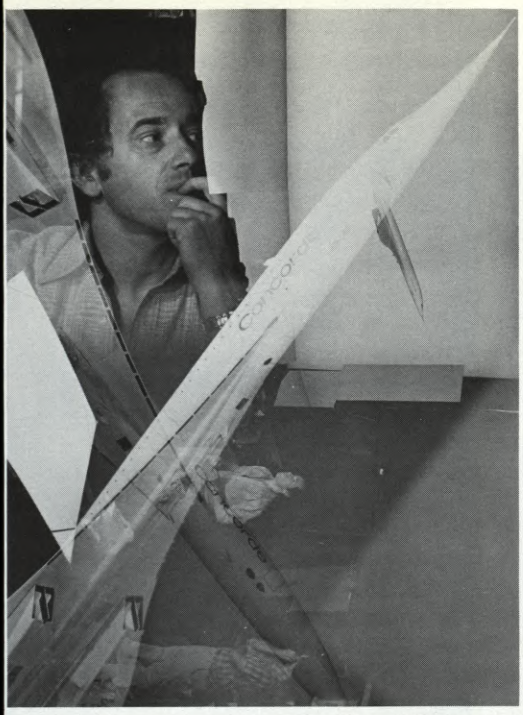
By the time the first model was finished, which was the drone missile, we had all of its fourteen scenes programmed on tape and the next day we started our first production shot, five days before the scheduled start of April 2.

To choose the right testing approach is vital if you are under the time gun—and I haven't been on a production that didn't have one. On this production it was more like a cannon. I realized the size of it when walking out from dailies, I ran into Executive Producer Jennings Lang. With a glorious smile and his authoritative voice he said, "Abe, you know I booked eight hundred theaters for the August 3rd release. Do you think you are going to be ready?" Not having the right words on the tip of my tongue, I resorted to a smile and a nod. I didn't have to wait a long time to find out that my answer wasn't too convincing and it was made clear to me by The Black Tower that the date was firm for the premiere.

The major sequence was the chase between the Phantom and the helpless Concorde. The director, David Lowell Rich, called it the heart of the picture. Visually it had to be very realistic in order for it to be believable. We all knew it. During the pre-production, I had screened some forty pictures that had flying sequences in them—from WINGS which was made in 1926 to THE HUNTERS made in 1958 to AIRPORT '77. I



(ABOVE) Bob Bailey and Keith White review the final angles to be applied to a Phantom F-4 shot. (BELOW RIGHT) A modified model mover called "Bennetron", which was designed and built by Richard Bennet to support the 20-pound Concorde model, is shown being tested by Tim McHugh before the final model will be mounted. Bud Elam was the electronics wizard responsible for all four-stage motion control equipment, which drove and repeated the moves of the camera, as well as the model.



A worried moment for Abe Milrad, concerned over the Concorde model suspended in mid-air. After the Concorde fell, requiring five hours of repair work in the model shop, a net was securely stretched underneath the model for protection against any further mishaps.

taped the best of each sequence and carefully studied the real flying behavior of the airplanes. We knew that the background for the models would be extremely important to each scene and realized that they would have to be "choreographed". Wes Thompson, who was in charge of the special aerial background photography, proved to be a life saver with his immediate understanding of our needs. He went up endless times with the motion control storyboard in one hand and his camera in the other. He got to be known as "the cloud chaser". Each day we would screen the dailies while he complained about his knees and all the "G" forces he went through for each shot. Although I was very sympathetic to his complaints, we both knew that if it was not good he would have to go up again. I have to say he was the first one to point out that better shots could be achieved and he finally got all we needed.

It was important for me to have the backgrounds for each scene before the shooting would start in order to be able to light the model according to its proper final background. To achieve the proper lighting, which would not only give uniformity through all the shots but would also give a dramatic look to the plane as well, wasn't easy. Each model had its own color combination demanding its own special lighting. From the pitchblack drone missile to the yellow Concorde, we went through a lot of lighting tests.

A huge overhang scaffolding was constructed and a special chicken coup was designed to recreate an even sunlight effect across the entire travelling distance of the model plane. We had to be very careful to match the key light on the model to the key light of its background.

The last scene of the chase, which was poetically titled "the falling leaf" by the director, needed not only special attention, but special dedication and production testing of its own. One of the sequences I taped was a World War I plane plunging through the air from the movie LAFAYETTE ESCADRILLE, which proved to be great study material for me. The actual look of this maneuver is a combination of several 360-degree eccentric rotations of the plane, sometimes around a nodal point of its nose and, at other times, around the nodal point of the tail. What it really is is a dog-leg move that changes its pivot point from the tail to the nose and vice-versa. To top all this, it has to move across the screen, so as not

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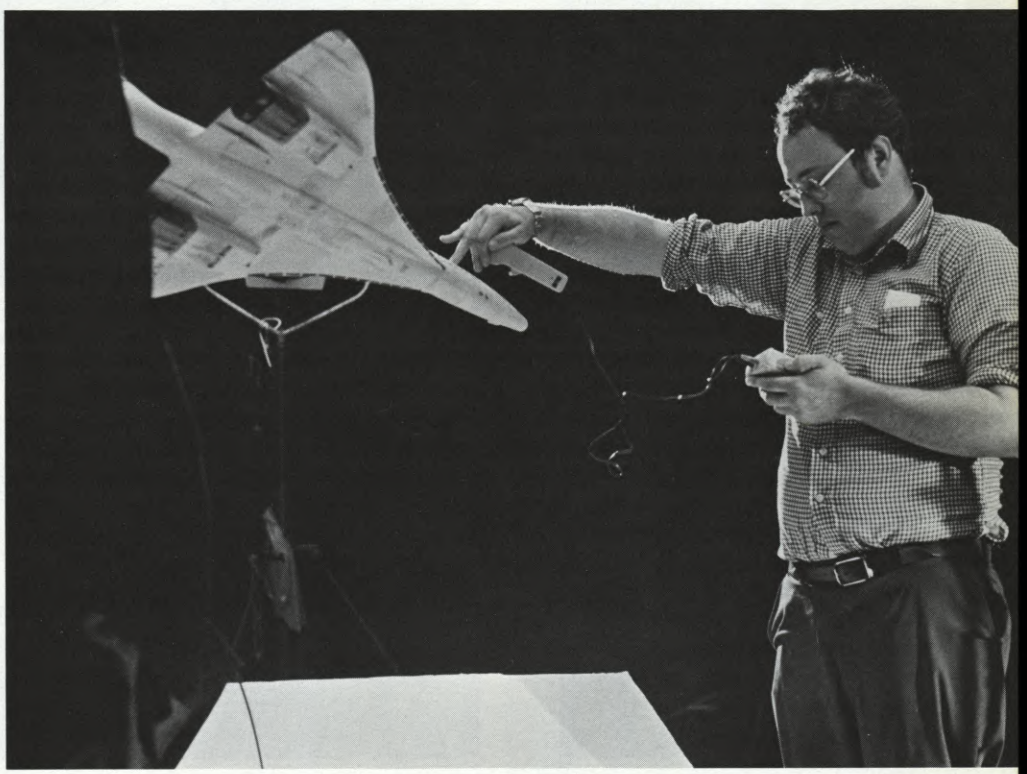
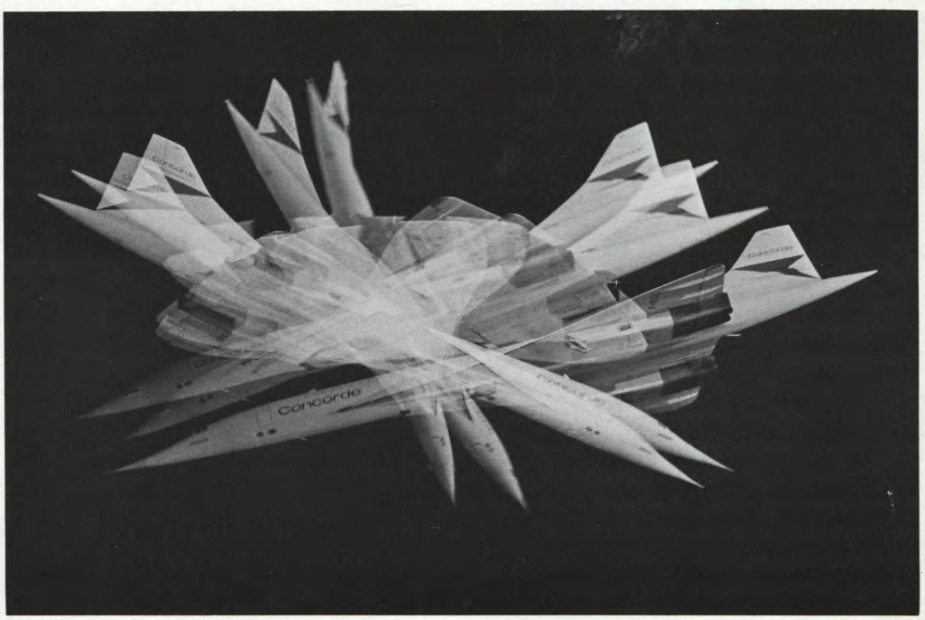
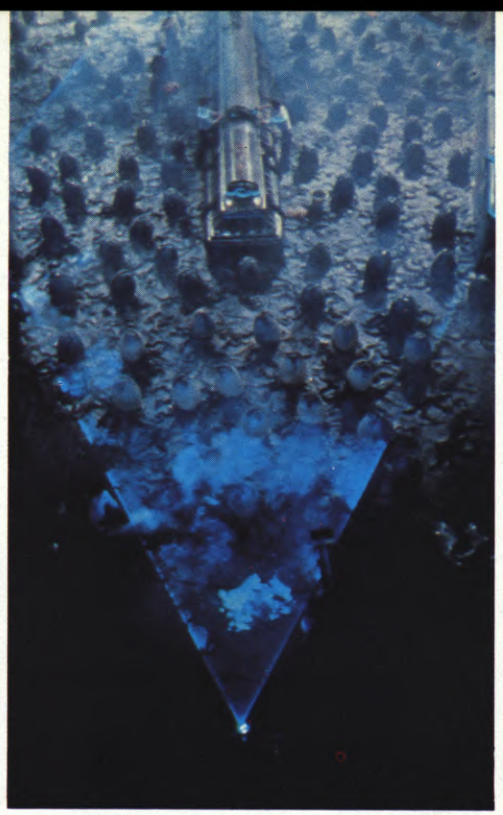
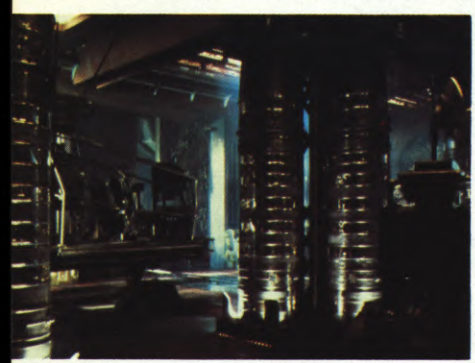


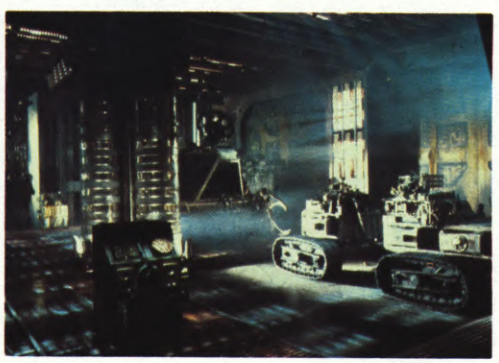
Alex Funke makes a final check of the running lights before shooting a scene. (BELOW) A multiple-exposure photograph, specially shot to illustrate this *American Cinematographer* article, traces the path of the Concorde as it spirals downward in the spectacular "falling leaf" sequence, perhaps the single most complex model maneuver in the picture.

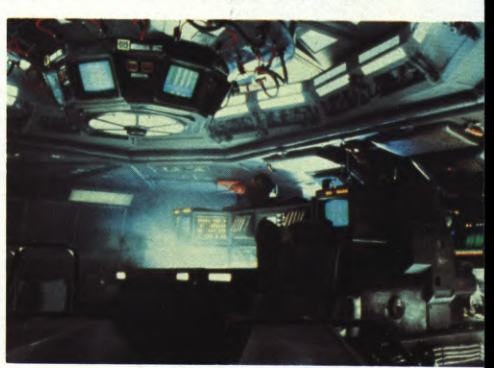




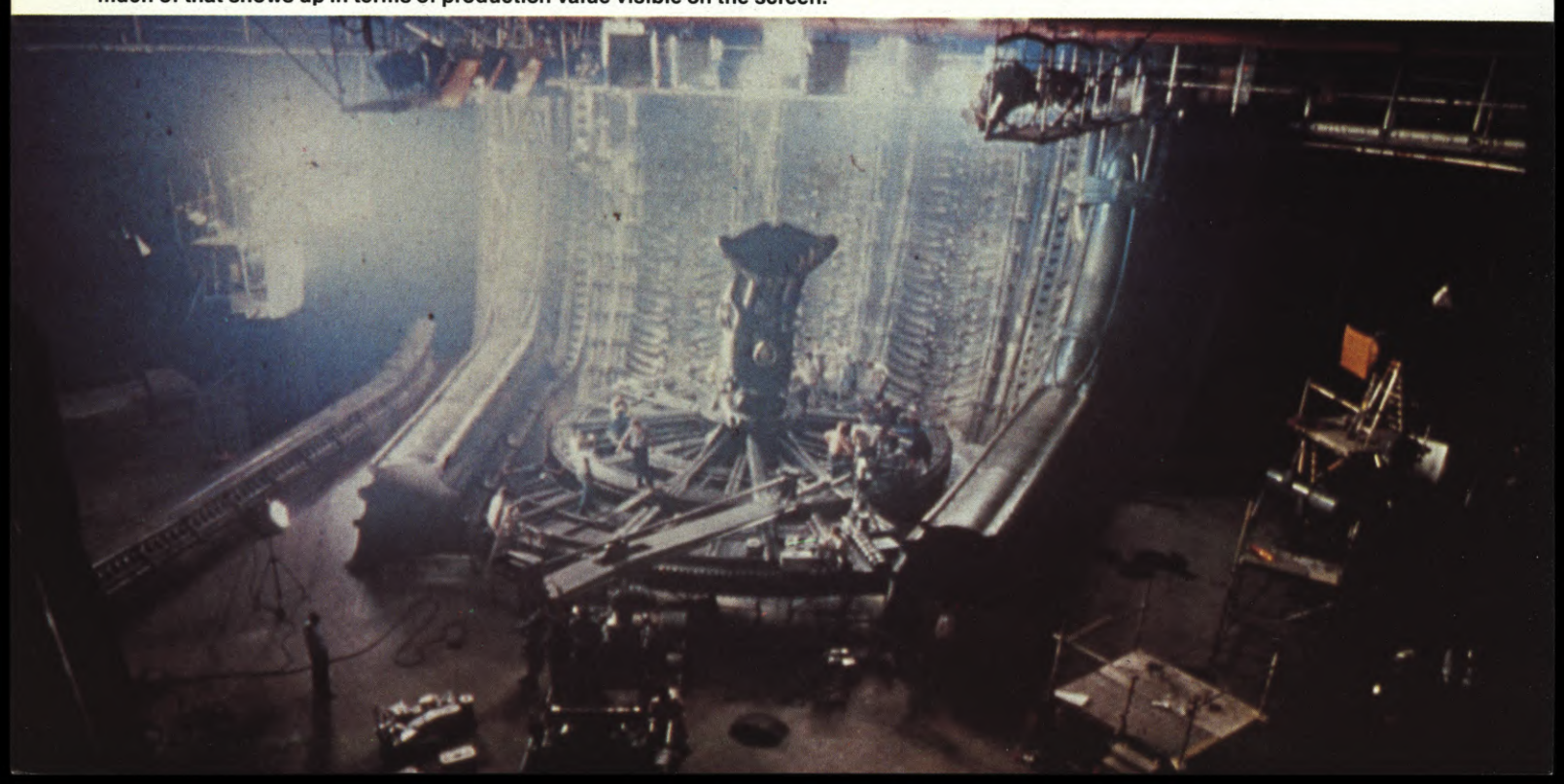
One of the strangest and most sinister sets in the film is this area inside the derelict spacecraft which appears to be some sort of spawning ground studded with evil-looking eggs. Here imaginative design and skillful lighting combine to produce an effect of nameless, impending horror, which becomes all too real when one of the astronauts leans close to examine one of the eggs. For sheer originality and dramatic impact the effect is hard to beat.







(ABOVE LEFT and CENTER) The "C Level" (third deck) of the *Nostromo,* a vast maintenance area, contained a sort of garage full of space vehicles of various kinds. (RIGHT) An area of the operational bridge. (BELOW) A bird's eye view of the full-size section of the derelict spacecraft, with its grim inhabitant. The budget of ALIEN was in the neighborhood of $9,000,000, and it is a credit to the producer that much of that shows up in terms of production value visible on the screen.



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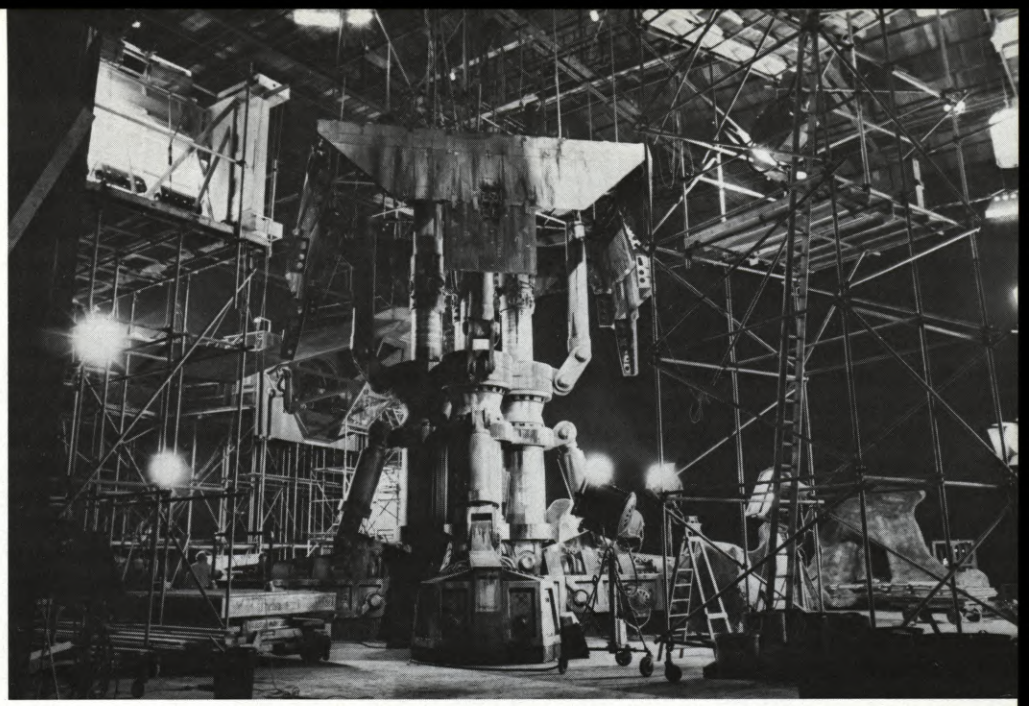
actually built this incredible suit—complete with head and mask—around a very, very tall African gentleman. He was over seven feet tall and we selected him because we knew he would have a fantastic stature. By the time we built up his feet and added the enormous head, he towered nearly eight feet high.

The great problem with creating such monsters is that if you ever allow the audience to see them full-length and dwell on them for any more than eight frames, however technically marvelous they may be, they will inevitably give themselves away. In the end, the scary monster becomes a man in a rubber suit—and that's the problem. So the trick is to try never to show the thing as a complete entity until the very last possible minute. Then, if you do show it, you show it for as short a space of time as possible. It's an inescapable fact that however much clever conception, design and technology go into such a creature, if you look at it too long, it will look like a human being wearing a suit.

In the final sequence of ALIEN, which takes place aboard the escape shuttle, we introduced this patient seven-foot man wearing an extraordinary costume. We introduced him into a section of the set, found a space for him, and literally built the equipment around him, so that he became part of the texture of the wall. The girl enters the craft, unaware until the very last minute that he is there, and he emerges, almost as if he has grown into the equipment and is hibernating.

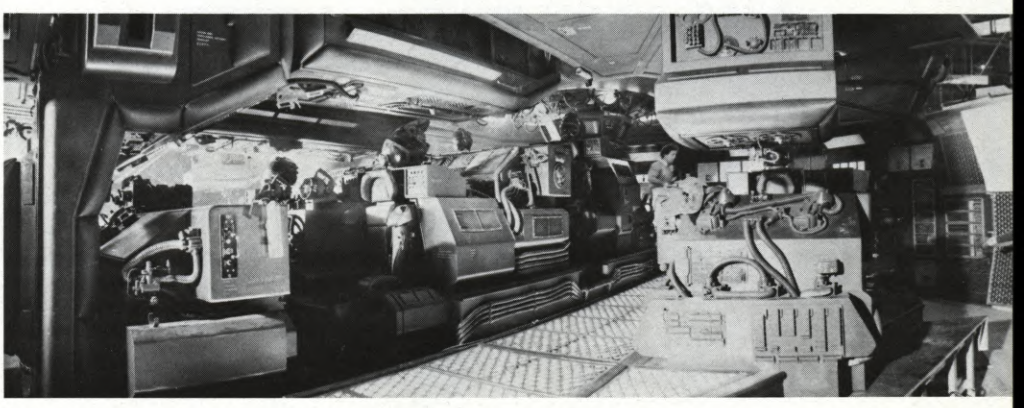
One of the things that I have always felt was most important in this work I do—designing sets for films—was that there be a good relationship between the Director, the Lighting Cameraman and the Production Designer. That's imperative, because no matter how well the sets are designed, built and finished, they are no good unless they are well photographed. I think that Derek Vanlint, the Lighting Cameraman on ALIEN, would agree with me on this. We have had this discussion before and he kindly says, in turn, that it is no good for him unless he has something to photograph. A good exchange is absolutely vital.

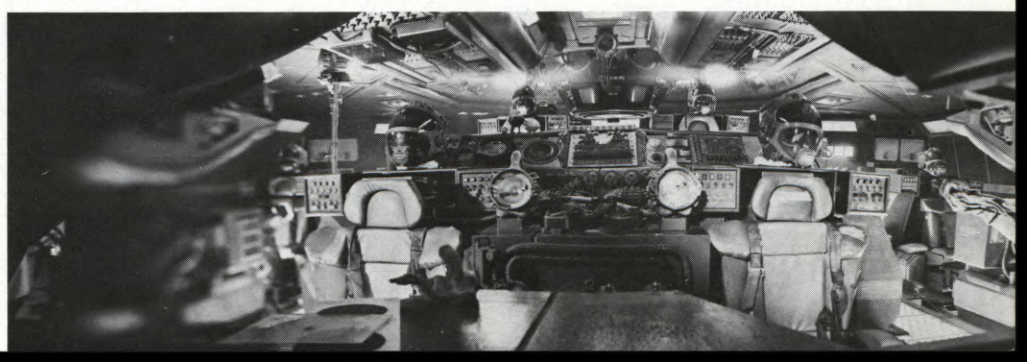
Like Derek, I have done a number of commercials for Ridley Scott. In fact, I worked for two years with his commercial production company in London as a sort of in-house Art Director, and we did a great many commercials together. The very first set I built for Ridley was at Shepperton Studios (where we shot ALIEN) and it was lit and photographed by Derek Vanlint. That was five or six years ago, so we have a longstanding relationship, you might say.



Another area of "C Level" contained a compartment into which one of the spacecraft's hydraulic landing legs can be seen folded. It is in this dripping, cavernous set that one of the astronauts meets a horrible fate at the not-very-tender mercies of the alien creature. The "geography" of the spacecraft is so well conceived that it is believable on screen as a multi-levelled vehicle.

Working with Ridley is an enormously stimulating experience and he's quite remarkable as a director, I think, because his direction encompasses every level of the film. His involvement and his interest and his incentive extend to everything from the sets, to the lighting, to the costumes, to the props, to the special effects, to every trick and trade. Everything bears his scrutiny. He insists on being involved and never dismisses any area to anyone. He never says, "Alright, that's it. I'm not interested. That's your job." He wants to know about everything; he wants to see everything; he has ideas about everything. He's a wonderfully stimulating person to work with, and I must confess that I've never worked with anyone before or since whose interest is so complete and total over the whole film, music and everything. This I find absolutely fascinating, and the only other person I've heard of who is perhaps like that is Stanley Kubrick. But I've never worked with him. I can only talk about Ridley, and I find him quite the most impressive director I've ever been involved with. ■





(ABOVE and BELOW) Views of the spectacular operational bridge where, amidst a veritable technological wonderland, the seven crew members sit at their individual leather seats navigating the space tug. It is probably the most technologically detailed and authentic scientific movie set ever constructed. The astronauts are surrounded by forty various-sized television screens, plus a welter of complex electronic and mechanical equipment.

INDUSTRY ACTIVITIES

HOUSTON INTL FILM FEST SET FOR '79

The Festival of The Americas has selected Houston as its headquarters city for its 12th Annual International Film Festival Competition, Festival President and Executive Director J. Hunter Todd has announced. Todd continued, "For our 1979 Festival of The Americas we wanted to pick America's most dynamic and fast-moving city. We visited and considered more than five metro areas and Houston won hands-down. I feel that Houston is America's Renaissance city of the eighties, and we want to be part of that excitement." Todd, Founder and Director of the prestigious 12-year-old event, has won more than 100 international awards for creative excellence from other film festivals. His festival and filmmaking background is extensive.

The Houston International Film Festival (The 12th Annual Festival of The Americas) is slated for early November of 1979. Todd cited a new, exciting structure for the re-organized international film festival, which includes three main divisions: the main competitive section, the film market, and Photomax, a trade fair (including a major production equipment exhibit and a film-makers' workshop). The Houston International Film Festival will place special emphasis on the independent film-maker, including; feature, documentary, short, TV and experimental films. It will de-emphasize features of the major Hollywood studios (which really do not want or need festival involvement) and spotlight new independent and foreign feature films that deserve special attention.

Todd stated, "We are going to put heavy emphasis on the creative filmmakers who have faithfully supported our festivals for the past 12 years, the smaller independent producer of features, documentary, short and experimental films."

All the Festival of The Americas staffers have been with Todd Festivals for up to 12 years. They have also assisted in the production of the USA sections of festivals in Tehran, Cork, Krakow, Cairo, Tashkent, and Moscow. This continuing operations management excellence assures film-makers and distributors of the same superb service and attention.

The Houston International Film Festival (a non-profit corp.) is sponsored and funded by the Houston Film Society, Cinema America, The Festival of The Americas, and the Houston private sector. The operations budget for the

1979 event is between 350 and 450 thousand dollars. Members of the Board of Advisors include Samuel Bronston, who was instrumental in bringing the festival to Houston, and J. D. Feigelson, a top international award-winning local filmmaker.

During the November event, The Houston Festival will present more than fifty new feature films from countries around the world, plus special programs of award-winning shorts, documentaries, experimental films, and TV productions. All screenings and other festival events are open to film-makers and the public. The PhotoMax film production workshop will present industry leaders in the fields of editing, TV, lighting, cinematography, writing, financing, and distribution. Several theaters and a major hotel complex in Houston will be used as Festival Headquarters.

For information on The Houston International Film Festival, The Film Market, The Photomax Trade Fair, and Production Workshops, plus the complete festival membership and *entry kit,* send your name and address to: J. Hunter Todd, President/CEO; Houston Int'l Film Festival; 12th Festival of The Americas; Post Office Box 27574; Houston, Texas 77027. ■

CAR TRACKING SHOTS
Continued from Page 789

we wanted to avoid the limitations inherent in a film composed entirely of static shots. Gary wanted a fluid, moving camera that could complement aspects of the characters' entrapment. As part of a hypnotic dialogue sequence Gary wanted to start on a frontal shot of one of the characters, with the camera then tracking back (between the bucket seats) into the back seat where it would be shooting out the rear window at a dark freeway landscape. No static shot could so strongly express the characters' hopelessness as this, where the camera pulls back and abandons them to their senseless journey. To accomplish this, some sort of tracking system had to be installed in the car, preferably one versatile enough to allow for a variety of moving shots.

The basic track consisted of a plywood platform three-quarters by six by sixty inches. The backrest part of the back seat was easily removed, allowing us to attach one end of the platform to the exposed metal frame with a bracket and bolt. The platform then extended up between the bucket seats, ending about eighteen inches shy of the dashboard, and at a height of about six inches above the transmission hump.

A curious but invaluable design feature of the Starfire was a "glove box" located in the transmission hump, in line with the

backs of the front seats. The hinged door of this recess was removed, and a box of pine was built to fit snugly in this space, projecting six inches out of it to provide a column-like support for the front end of the plywood platform. The platform was screwed to the pine box to give the assembly strength. Two, three-quarter-inch-diameter, pieces of pipe running parallel to each other (and parallel to the platform) three inches apart and three inches above the platform were fixed at each end of the track with wooden supports. A cube shaped block six inches on each edge made our improvised tripod head. Two, three-quarter-inch holes were drilled through the block, three inches apart, to accommodate the two pieces of pipe, while letting one face of the block touch the platform. The block was then free to move up and down the length of the track.

Another hole was drilled through the block, from the face touching the platform to its opposite side. A bolt running through this hole served as the camera mounting screw. It was countersunk on the bottom so as not to touch the platform, while at the top end a set of lock nuts were adjusted to allow the bolt to turn freely, these lock nuts were countersunk so that a thin metal washer placed on top of the nuts was just level with the top face of the block. When we screwed an Eclair mounting shoe onto this bolt, the base of the shoe just came into contact with the top of the block. The camera, when resting in this shoe, pivoted about the axis of the bolt; the relatively broad base of the shoe mount touching the surface of the block (lightly enough, though, to allow panning) added greatly to the stability of the tracking system.

The height of the track, and therefore the camera, was varied by placing wood shims under the bottom of the pine box (in the glove box), with a corresponding anchoring correction in the rear. This was necessary, due to the difference in sitting height between the two characters. Having them "cheat", with one slouching and the other sitting erect, made large changes unnecessary, but slight adjustments were required to eliminate the problem completely. One must be aware that the block we used allowed the camera to pan, but not to tilt. Therefore, shimming in the front, rear, or both, was the singular means by which we obtained our desired vertical framing, other than by changing lenses.

A larger and sturdier head (such as the usual friction or fluid head) was impossible, even with the track as close to the car floor as it would go. Any substantial head would have raised the camera so high that all tracking shots of the actors would have assumed a displeasing, high-angle

perspective.

We did build a second block for the track with a conventional still camera tripod head mounted on it, but the assembly was so precarious that the camera operator had to carry nearly the full weight of the camera, which had a tendency to pitch and rock on the small support, especially when the car was moving. This block with the still camera head was used successfully on one shot where the car was traveling very slowly on a smooth black top. The camera is aimed out the rear side window, moving up the track into a profile of the driver as the car comes to a stop. A drive-in attendant, lured by the promise of a tip, brings the refreshments; while he passes a bucket of popcorn through the partially open window the contents spill into the driver's lap, the camera tilting to follow this action.

A problem that hindered our ability to do smooth tracking shots was the friction between the block and the platform due to the weight of the camera. An Eclair with 400-foot magazine is fairly heavy, and difficult to move smoothly in a car traveling on ordinary roads. We tried spraying the contacting surfaces with silicone, but while the initial results were excellent, they wore off rapidly. Continuing with this would have been too impractical, since the pipes had to be disconnected so the block could be taken off and sprayed. Next we tried strips of Teflon attached to the bottom of the block, running on Teflon tape laid down the length of the track. However, the Teflon tape was so thin that it was torn after several passes of the camera block. Finally we tried drawing a block of paraffin across both surfaces. The results were excellent. This treatment lasted considerably longer than either of the previous methods. It was quick and inexpensive, and after several applications the buildup was easily removed with a cabinet scraper.

One difficulty we had not anticipated was the impossibility, on most tracking shots, of looking through the viewfinder for the entire shot. The camera operator is, for all practical purposes, confined to one position during any single shot. While tracking, the camera would often pivot beyond the point where it was possible to crane one's neck or fit one's head. The versatility of the NPR eyepiece did us little good, since one lost sight at least during the time the eyepiece was being flipped over. Also, as one hand was pushing the camera along the platform while the other was executing the pan, there was no free hand to turn the eyepiece. Since the simultaneous tracking and panning was almost like dancing with the camera, another hand in the way

was likely to upset the performance of the move. To solve this problem we marked positions on the track and block to indicate a predetermined framing. This arrangement was quite burdensome to the actors, who were granted little freedom of movement once a shot had been set up.

At this point the track worked smoothly and reliably. We could do shots like the two described earlier, as well as more elaborate variations. One shot begins with the camera pointing out the rear passenger side window, moving up the track to a position slightly forward of a profile, then panning around to the driver, and finally panning back to the windshield, revealing the burned-out landscape beyond. The track could also be removed from its primary position (running the length of the car) and placed in the back seat, spanning the two rear seat armrests. This enabled us to make lateral camera moves to follow dialogue or action.

The lens chosen for most of the shooting was a 10mm Switar. When the camera was in a position on the track closest to the actors' faces, the lens gave us head, shoulders, and a fair amount of background (car), without giving us a displeasingly altered perspective. Any longer focal length, even a 12.5mm, yielded too severe a closeup to be used frequently. From the back seat pointing forward, the 10mm covered both actors in a two shot, and for hand-held shots it was an ideal lens for exploring or following certain actions inside the car.

In order to gain an even greater frontal perspective on the characters, we extended the front of the plywood platform another foot, matching this change with a set of longer pipes. With the camera in its forwardmost position, framing a character in a three-quarter frontal, the back of the Eclair magazine came to rest right up against the windshield. This extra foot was an optional addition, as opposed to being an integral part of the track, to allow us one more general type of tracking shot.

There are shots where the camera either starts or ends in the back seat, pointing towards (and out) the front windshield. In the fully retracted position a 10mm lens picks up the first eighteen inches of the tracking equipment in the bottom of the frame. That portion had to be concealed. Our solution, and the most elaborate addition we were to make to the equipment, was a rigid canopy that covered the front eighteen inches of track and slid forward towards the dash, pushed by the camera block as soon as the front end of the track was out of view in the bottom of the frame. This canopy was covered with blue vinyl and chrome tape to match the color scheme of the car,

and looks conceivably like an armrest for the front seat occupants. To complete our illusion, the tops of two paper cups were attached to the canopy. Chrome tape ridges circled these cups, concealing them except for the plastic lids and straws. The completed "drink holder" seemed the appropriate addition to a car designed for, and dedicated to, convenience. When the camera moved up the track and contacted the canopy, the camera pushed the canopy forward into the space between the front end of the track and the dash. Rubber bands attached to the back of the canopy and to the edge of the track platform (about twenty-four inches from the front end) provided the means by which the canopy was drawn back into place when the camera retreated into the back seat. Aluminum channels attached to the edges of the track acted as guides, and helped keep the canopy in a stable configuration. The difference between the length of the disguise and the maximum amount of track visible with the camera fully retracted was about one-quarter inch, yet not once is the canopy seen to move, or the exposed track visible.

The completed tracking system with this canopy disguise allowed shots, for example, that started as MCU profiles, with the camera simultaneously pivoting on the block (towards the windshield) and tracking into the backseat.

An additional use of our tracking system was for special effects; namely, single frame pixillation. A Bolex was used because of its capacity for single frame exposure. The edge of the track was marked with calibrations, and the camera was moved in small increments between each single frame exposure. It was thus possible to calculate and execute smooth tracking shots of various time lengths (eight seconds, twelve seconds, etc.) that travelled the length of the car's interior. These pixillated tracking shots produce an hallucinatory effect, combining a smooth dreamlike motion inside the car with a flow of flashing, accelerated images outside. These single frame tracking shots were all executed in a moving car on city streets at night, so the filming was unusually difficult.

The tracking system designed for "AUTO-MATES" provided sensations impossible with a static camera setup. The interior of the car surrounds the moving camera and gives the viewer the strong, though seemingly contradictory, impression of panoramic confinement, reinforcing the image of the characters' imprisonment. ■

FORMULA FOR CREATING TOP TV COMMERCIALS
Continued from Page 785

QUESTION: Do you have the lab manipulate your film in any way?

BARNETT: Rarely, other than the one-stop push I use almost as a standard. I had one lab that was proud of a technique it had worked out, some pre- or post-flashing, or something. They tried it on my film without asking me, supposedly to improve my results. I hit the roof. I told them I give them the film the way I want it, and if I need for them to change anything, I will tell them.

QUESTION: Bob, you mentioned the WLS promo as being one of your personal favorite projects. Why was that?

GIRALDI: It was a very involving concept—emotional, friendly, humorous, and real—yet the message was very clear. WLS's news department had produced a moving piece on a blind couple in a changing neighborhood. All the elderly pair's friends had moved away or died, but now they were forming new bonds of friendship with the black kids whose families had moved into the neighborhood. It was an important story that showed how neighborhoods and people change, and WLS wanted to tell its viewers the station thought this type of story was as important as spot news. We reconstructed the events of the news story, using actors. I poured my whole guts into that commercial. We used two old people from New York. During the last scene, when the kids have gone home from a block party for the blind couple, the old folks pause on the deserted street for a moment before they turn toward their home. That was the only time I cried behind the camera. The agency wanted another take, but I said, "No, that's it. It ends here." I was drained.

QUESTION: What is the most difficult type of job for you to handle?

GIRALDI: Even at 100 commercials a year, we turn away a lot of work. We turn down things we are not comfortable with, like fashion. The jobs we do accept are just new challenges to us.

BARNETT: A lot of the agencies come up with concepts that involve period work. It is really difficult to get back to the look of the '40's motion picture today. The audience won't believe it, for one thing. And, as I said, the film is so sharp, a lot of optical work is needed to get the same effect. We try to be symbolic of a period, rather than duplicate it.

GIRALDI: A good example was a commercial we did for Pioneer Electronics, conceived to show the same care that went into the construction of Carnegie Hall's acoustics goes into Pioneer products. We had an actor portraying Mr. Tudhill, the designer, inspecting the stage and dramatically telling an assistant, "You don't have to shout, Mr. O'Reilly." We used the real Carnegie Hall as a location, but tried to duplicate the feel of the earlier days.

BARNETT: Even with a chocolate filter, which is usually used for exteriors, the color negative still had enough speed for a 500mm f/4 lens. The only lights we needed were three 10 Ks and a couple 750s.

QUESTION: Have you used the film under mixed light conditions?

BARNETT: We did a public service spot for the arts with Billy Martin at the Metropolitan Museum of Art. They were afraid we would bring in a lot of big lights and damage the paintings, but we got away with the available light, which included incandescents, fluorescents, and a skylight. My tricolor meter went crazy in there, so I shot some tests. I ended up taking the 85 filter out, and using a #2 or #3 fog filter and a one-stop force. The only light we needed was a 1,000-watt Mini to shoot some light on Billy Martin's eyes, under the baseball cap he wore.

QUESTION: How much of your work is on 35mm film?

GIRALDI: At least 95 percent. We may handle five or six videotape jobs a year—I was tape director of the year for a Fresca spot I did several years ago. There are times for using tape, and a lot of situations when you shouldn't. I get requests to shoot a commercial on tape, with the advisory—"Make it look like film." If they want it to look like film, they should use film. I refuse to use a medium for purely economic reasons. That is why so little of our work is done on 16mm negative. We will use it when we want to come up with the "reportage" look, or need to do a lot of hand-held footage, but not to save money. Even though television theoretically resolves no more than the images delivered by 8mm film, I still feel 35mm looks better on the TV screen. With 16mm, you have to use finer filters and more careful lighting in order to avoid degrading the image. You start out with fewer marbles in the bowl Eddie was referring to. I have never won a CLIO using 16mm. ■

FILMING LONDON'S EAST END ON A SHOESTRING

Continued from Page 793

few color slides during the casting. I told Mr. Hughes that I would be back at a later date to record the sound effects. I used Eastman Video News film which I purchased in London for the foundry shots and pushed it one stop.

It was difficult to obtain a professional discount on film in England. The Kodak store agreed to give me a discount if I could prove that I was a professional photographer. Fortunately, "Photographer" was indicated as my profession in my British passport. I bought more ECO at the store, but the film, even with the discount, was more expensive than in the United States. Processing and work prints were also far more expensive, so I stored my exposed film in a fish cold storage until I returned home.

The hauling of the equipment around on that first day did not go down with me too well and I wasn't looking forward to too much more shooting. I returned the tripod to Pelling and Cross that evening and reserved it for the next day. Next morning, guess what? It was raining again and I didn't do too much filming for another month. I'm pleased that I didn't have a crew on salary or even one without salary. I cancelled my reservation for the tripod at Pellings and they did seem a little indignant. The next time the sun came out, Pelling and Cross had rented the tripod out to someone else. The carrying of the tripod and the unreliability of renting one was a problem. I bought a unipod—or monopod, depending on whether you are either a Latin or Greek scholar. The price of this piece of equipment was equivalent to the day's rental of the fluid head tripod. Because of the one-man crew and this set up, there is not a lateral pan, dolly or zoom throughout the film, except for a lateral pan from a boat on the River Thames. I relied on rapid cutting and no one has commented that my camera work was not very fluid.

The next segment I had in mind was Truman's Brewery. Most of the breweries in the East End during the 17th Century were Quaker-owned. The oppressed Quakers were not allowed into the universities or professions, so they went into trade. Brewing beer was one of the most popular trades. The non-Quaker Ben Truman amalgamated with his Quaker friends and absorbed all the small breweries.

When seeking permission to film inside the brewery I was told that I would have to spend half a day with them before permission would be considered, in order to get acquainted with the history of the firm and learn how beer is made. This time was spent with the new employees

of the brewery. I was given the "red carpet" treatment at this orientation. If only I were a beer drinker . . . The brewery had the finest cafeteria I have ever visited. It was heavily subsidized. My *duck a l'orange* lunch cost approximately half a dollar. The complete process of brewing was filmed in sequence. Again I used the Eastman Video News film pushed one stop. The sound effects, again, at a later date.

As I had mentioned, the Docks of London had almost disappeared. I managed to get some footage of the demolition of the London Docks, the point of arrival for thousands of Jews who had fled Tzarist Russia. Between the London Dock and the Tower of London lies St. Katherine Dock. Due to much pilferage in the docks, St. Katherine was always under tight security. Hence, the only persons ever to see the interior of this architectural marvel were seamen and dock workers and this little dock was hardly admired. Fortunately, preservationists saved the dock from the demolition ball and now the area is a yachting marina and boat museum. The old warehouses have been converted into luxury apartments.

A section of the film deals with the Spitalfields produce market. The market handles fruit and produce from all corners of the globe. The filming of this section was perhaps the most enjoyable, due to the co-operation of the porters spiced with their dry Cockney humor. If there was any one section of the film where I fell in love with my footage, this was it.

Activity at the market comes to a standstill at about nine in the morning. I was repeatedly told that I must come at five in the morning for the real action. The trains had not begun to run at this time and I didn't arrive at Bishopsgate near the market until 5:30 a.m. As I was approaching the market two of the most beautiful women I have ever set my eyes on approached me and gently eased me towards the wall. Being laden with equipment I couldn't offer much resistance. These girls seemed too refined to be "ladies of the night" or early morning, for that matter. The suspense was tremendous until they identified themselves as City of London policewomen and could I identify and explain myself!

Tramps, "down and outs" and other lost souls formed a sequence in the film. In America they may be known as winos or rummies, but in London they are the "meth boys", as their beverage is methylated spirits. Becoming their friend and winning their confidence was an integral part of filming them. I always felt itchy and wanted to scratch after leaving them, but this was mainly psychological. One of

them wanted to be my uncle. Now I have an Uncle Barney!

The East End historian, Mr. Bernard Nurse of the Tower Hamlets Public Library, was an invaluable aid. Besides providing much information, he had a good file of historical photographs that I was permitted to use in the film. Also available were copies of the Police Gazette, with artist's renditions of the "Jack the Ripper" outrages. These stills made a nice thirty-second segment, complete with effects. The music to this excerpt was from an old music box playing "Our Lodger Is Such a Nice Young Man".

The music in the film was mechanical, i.e. player pianos, barrel organs or street pianos and music boxes. These instruments were popular in London before the advent of the phonograph. The barrel organs were a familiar sight and sound on the streets for many years and have only recently completely vanished. The music was recorded in a museum in Bristol in the West of England that houses these instruments. The museum gave permission to use the music in the film without fee. The songs recorded were all old music hall favorites that were popular at the turn of the century.

The East End has an association with the garment industry long before the Huguenot arrival. The Jews developed the industry before World War One. Today, the industry is staffed by Indian, Pakistani and Cypriot employees. I tried several factories in vain, seeking permission to film inside them. Fortunately the factory that did give me the O.K. was housed in my former elementary school. It seemed quite a contrast from the noise of children to the sounds of the sewing machines and Hoffman presses. Too bad the Indian women did not wish to be filmed. Working in their immaculate colorful *saris* they provided a gorgeous sight. I was sorry that this could not be put onto film.

The climax of the film was the Petticoat Lane market on a Sunday morning. I had to stand by each Sunday waiting for the good weather. Every Sunday was gloomy until August. I sweated it out for the good Sunday to come along; otherwise the highlight of the film would have been missing. This reminded me of the 1948 J. Arthur Rank film, IT ALWAYS RAINS ON SUNDAY, which depicted life in the East End. When the fair day came I climbed up to a tall apartment building to get a pan shot to encompass the whole crowd. This hand-held pan shot had to be repeated several times until I got a smooth pan. It was gratifying when I got good vibes from the audience at the showing of the work print.

Working amongst the dense crowds would have been almost impossible with

a tripod and crew. The unipod proved more useful when maneuvering and shooting in the crowds. Much film was wasted as people walked in front of my lens. But this was part of the task. After the photography was completed I began to record the sounds. I rented a Uher tape recorder with a cardiod microphone. I used an omni-directional microphone just once, but it turned out to be impractical, due to the constant wind and seemed to pick up every pneumatic drill in the distance.

The sounds of Petticoat Lane make an interesting study. I recorded the same hucksters that I had filmed. Their patter is so repetitious that I almost had sync sound. Transferring of sound and editing were done back at the facilities at UCLA. It seems dangerous and difficult, but the narration was written to accompany the edited footage. I gave much thought to how the narration should be handled. I ended up with what I thought would be a novel idea: twelve narrators, each one with the accent that would be found in the area during a different period. French representing the Huguenots, Irish, Chinese, Jamaican, Indian and a variety of English accents from Cockney to the crystal glass English accent we all love to hear. Unfortunately, a part of the American audience had difficulty tuning into the different accents as they changed. The last chore was to take the sound re-recording class at UCLA, whilst the film was being edited, and then the film was mixed.

It seems ironic that the East End was the center of theater in the 17th and 18th Centuries, boasting such artists as David Garrick and Harriet Smithson. Today there is no professional theater. There are no English-language movie houses in operation. Only Indian-language films are shown. The rest of the theaters are now bingo parlors.

The comment from Professor John Bohm at UCLA was: "I see that you put a tremendous amount of work into your film." I'm glad that he realized it. ■

TWELFTH M.P. SEMINAR OF THE NORTHWEST
Continued from Page 797

the Cannes International Film Festival to pay for the $550,000 production costs.

Fons Rademakers, who was slated to speak on "The Dutch Cinema," immediately called for questions from the audience, and the creator of MAX HAVALAAR answered a variety of queries concerning funding, censorship and film distribution in Holland. A high regard for values and an impassioned delivery made him a popular speaker, and there were several spontaneous outbursts of applause.

Rademakers was followed by a young Dutch colleague, Nuchka Van Brakel, who immediately dismissed her assigned topic, "Women in the Dutch Cinema" ("It's the same problem as women in cinema anywhere."), and also took questions from the floor. When asked about the feminist movement in the Netherlands, she described their original opposition to her film, A WOMAN LIKE EVE, and their subsequent acceptance of it after release.

Ben Shedd, formerly of Churchill Films and NOVA, talked on "The Making of the Gossamer Condor," his Oscar award-winning short documentary about the first successful human-powered plane. Shedd's is a case of banking on a good property (Inventor Paul McCready's Gossamer Albatross—a newer version of the Condor—has since successfully crossed the English Channel) and seeing it through the usual delays and setbacks.

Saturday night is always reserved for screening of speakers' films. Audiences saw Sanders' CZECHOSLOVAKIA 1968, the first reel of Tommy Cook's PLAYERS, Shedd's THE FLIGHT OF THE GOSSAMER CONDOR, Van Brakel's new feature, A WOMAN LIKE EVE, and Liddle's SPIRIT OF THE WIND, which drew a standing ovation.

How does it all run so smoothly? The careful observer sees Keith Cutler, a courteous moderator with his eye always on his wristwatch, Dan Biggs, this year's program chairman, who is orchestrating from the speakers room, Craig Scheak who was hired to put together three months of last-minute details, a volunteer board of Canadian, Oregon and Washington film industry people, and the warm and hospitable Les Davis, whose brainchild the seminar was 12 years ago. This year, a new Les Davis project was offered: on October 19-21 the Seminar board, in collaboration with the Northwest Media Project, will present a highly specialized seminar on Financing the Independent Feature Film in Portland, Oregon. ■

SPECIAL VISUAL EFFECTS FOR "AIRPORT '79"

Continued from Page 821

to make the photography look rigged and planned. I put together a rough rig from plywood and a rectangular holding to check the basic concept and it worked.

If you put all your heart into a project, combined with all the experience and talent you have acquired, the result is excellence. An example of this is cinematographer Peter Gibbons. With his radiant face and exuberance, he was a catalyst for all of us. I sat down with him and went through many tapes and discussions. I showed him the "falling leaf" from LAFAYETTE ESCADRILLE and then brought him to my office to explain the rig. As soon as he saw it, there was no need for explanation. With a broad smile he said, "I think this is going to work." Stage 4, the smallest of the stages, was assigned to do Scene 495, "the falling leaf", which was solely put in the confident hands of Peter Gibbons. Within a week, he had something to show me. The rig he modified with motors and remote controls was ingeniously simple and two weeks later we started to shoot the first test of this scene.

I emphasized at our early production meetings that since the first thing to be affected by compromises is quality, that there would be no compromises. This was very well received.

I cannot say enough about the talent that went into the making of the visual effects. Without the cameramen: Alex Funkie, Peter Gibbons, Bob Bailey, Keith White, Tim McHugh and Chuck Schuman; Bob Hall, head of optical; or Kenneth Larson, a skillful and dedicated model maker, this would have been an almost certain impossibility. Above all—without the trust and support of the film's director, David Lowell Rich, this would have been an unbearable task. Our rapport was a total mixture of camaraderie and professional understanding.

If the making of the AIRPORT '79 special visual effects was an indication that the artist's eye and creativity still supersede the electronic age, then this endeavor was all well worth it. ■

A VISIT TO THE FILM INDUSTRY OF CHINA

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ture film, THE DOVE, which was distributed by EMI and Paramount. As it turned out, the Chinese had bought it from EMI. I had also written an article in *AMERICAN CINEMATOGRAPHER* about how we made that film. I learned that, before I arrived in China, all of the Chinese participants had seen the film and were completely familiar with the contents of the article. So I went through a grilling on every aspect of the production of THE DOVE—the script, the methods of planning the film, the shooting schedule, details of creating the storm sequences, the equipment used, etc. It was quite a challenging experience.

Open Discussions

A most gratifying aspect of our examination of the Chinese studios and the discussions which followed was the openness and candor which characterized all of these meetings. We were encouraged to be critical of their work—and we were. We were shown everything related to film-making, including research in progress. The discussions were challenging, sharp and constructive. Differences of opinion were openly aired in a friendly manner.

This report is not intended to be a full review of the state of the art of the film industry in China. This should be accomplished, in my opinion, through future in-depth coverage in *AMERICAN CINEMATOGRAPHER*. However, I do wish to make some random comments about what I observed.

The Studios and Stages

All of the stages and studios have been rebuilt since the Chinese Revolution. The Beijing Film Studio was formerly a university, and was founded in 1949. It has five stages, one of which is a special effects stage.

The Shanghai studio is somewhat larger. All the stages are similar to our old sound stages. Development work is now being done to modernize these stages. The studios are organized vertically as completely self-sufficient production complexes. The scripts are generated through the studios. They own their own equipment. They have their own labs. They do all their post-production and special effects in-house. They do their own research. Thus, the Shanghai, Beijing and Changsun studios are completely independent of one another and have parallel programs. The only exception is in the utilization of the new Technicolor dye-transfer lab which services all of the studios.

Features are Shot in Color

Approximately 85% of the Chinese feature films are shot in color. The Beijing studio produces about 10 features each year, and the Shanghai studio more than 10. The stories deal with current problems and are positive from the point of view of emphasizing the constructive role people play in remolding their own characters and behavior in order to be more helpful to their fellow humans and in constructing a "better" society. There is almost no violence. Other productions include the filming of various musicals of the Peking and Shanghai Operas, full of folk fantasy and humor.

Professionalism

The level of professionalism is mixed. It seems that from 1966 to 1976 (during the reign of "The Gang of Four") practically all film-making was forbidden, and a full generation of film-making experience was lost. I saw a recent film produced by the Red Army studio which was highly professional. It was directed by an "old-timer" in film-making, Mr. Wang Ping (a former actor). I also saw other films which were less impressive. The Chinese are very aware of this problem and are pressing the objective of training as quickly as possible a new generation of skilled film-makers. In this respect, they look forward to learning from the experiences of American directors, cinematographers, editors, etc.

Lighting

Although the majority of the lighting equipment is standard, I was shown some remote-controlled, mechanized lights which are superior in design and operation to anything I had seen when I toured the countries of the world in preparing the book, *"STUDIO STAGE SURVEY"* for the Motion Picture and Television Research Center. I saw two different versions of these mechanized lights—one in Shanghai, which utilized one motor to focus, barn door and single and double scrim . . . all done with extreme precision and control; the other in Peking. The telescopes were made of lightweight pressed-fiber, which is more practical than the metal telescopes made in the rest of the world.

In Shanghai I saw some experimental HMI-type lights which operated from D.C. and required ballasts and power supplies far smaller and lighter than any existing in the Western world today—and they were also "flicker-free".

Cameras

My observation was that Arriflex cameras were those most universally used in China. I saw two Arriflex 35BL cameras in

operation and a few Arriflex IIC cameras. The cameramen are quite satisfied with this equipment. There was a great deal of interest in Panavision equipment—both the anamorphic and spherical systems—as well as in the Panaflex camera itself. They asked many questions regarding the comparative qualities of Panavision and other equipment. I tried to give them a fair picture of the respective characteristics and of the policies of Panavision, which has made this equipment so widely accepted in the Western world. They told me they had had a proposal from Panavision for its application in China and are considering it.

In Beijing I was shown a Mitchell blimped camera with a video monitor. Unfortunately, the video arrangement was faulty. However, the camera performed very well without the video. Upon my return to Los Angeles, I spoke to Whitey Wittrock, Vice-President and General Manager of Mitchell and, consistent with Mitchell's policy of supporting the integrity of their products, he advised me that Mitchell would do everything necessary to rectify the situation.

I should like to make a general comment about suppliers of sophisticated and other equipment to the People's Republic of China—and I believe this comment would apply across the board. Since the market is potentially so great, I would strongly recommend that manufacturers refrain from supplying newly-designed equipment to the Chinese. The problems of maintaining communication and providing warranty are difficult enough. For this reason, I believe that only the most reliable, time-tested equipment should be supplied. Otherwise the level of confidence will be destroyed and this large, important market will be destroyed.

Sound Recording Equipment

All films in China are shot silent. In fact, a musical production of the Peking Opera was being filmed while we were in the studio. The songs and music had been recorded and put on sprocketed film with an optical sound track. The actors were performing to conform to that sound track.

Film Processing

Laboratories: The standard color and black and white laboratory equipment is completely manufactured in China. There are also two dye-transfer plants—one completely built by the Chinese and the other by Technicolor of England. Both plants are sophisticated, well-equipped installations producing high-quality work.

Other Equipment

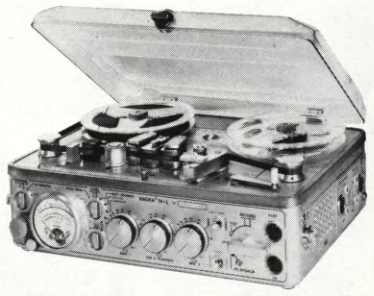
In the main, almost all other equipment is manufactured in China. This includes all types of printers, xenon projectors, sound mixing equipment and the like. An evaluation of this equipment is not within the province of this report.

The Summing-up

I was very impressed with the Chinese film-makers and the executives responsible for charting the future plans of the film industry of China. They have an enormous task before them. The priorities of the country call for film-making to take its proper place in the scheme of modernizing a country of 950 million people. Film-making is vital to the balanced development of that great country, and it looks as though the decision-makers in China understand this fact. The Chinese are very desirous of getting all the help they can in order to accelerate their plans for modernizing their film industry and training their creative and technical film-makers.

This visit to China, I hope, was a step in that direction. ■

(ABOUT THE AUTHOR: MILTON FORMAN is a Technical Consultant for motion picture productions and film stage and equipment design. Most recently he served as Technical Consultant to the Dino DeLaurentiis production of HURRICANE. He was also Associate Producer of THE DOVE, and Executive Producer to Harry Saltzman. Mr. Forman was the Consultant to the Samuel Goldwyn Studios in the design of their new stages, and author of the book, "STUDIO STAGE SURVEY", published by the Motion Picture and Television Research Center. Formerly he held the post of Vice-President and Consultant for Cinema Products Corporation, and was previously the Managing Director of Berkey International and President of Colortran. He is an Associate Member of the American Society of Cinematographers.)



THE FILMING OF "ALIEN"
Continued from Page 808

became my primary concern, and when I went to Los Angeles I saw some artwork in a book by H.R. Giger. There was a half-page in that book that was just amazing. I've never really been so shook up about anything. I just said, "This is the basis of the creature." From that point on we had a very factual, very specific, superbly rendered representation of what the Alien would finally be. It was valuable to know what his final stage would be, because then you could work backwards and biologically create stages of his development. In this case, it was necessary to do that. You had to be, to a certain extent, an industrial designer in order for it to look real. You had to develop a basic understanding of how it would work, how it would move. It's the same with any biological sort of creature that you are constructing. You've got to think of it in anatomical terms.

In this case we went from the final stage of what he was and jumped back to what he would look like as a baby. There had to be a certain shape related to the final stage, and that's partly how we arrived at the nasty one. The thing that sprung out of the egg—the "perambulatory penis", as we used to call it—is the father. It is an abstract entity, in a sense, because all it does is plant a seed. Once having conceived, it dies, and the next generation takes on characteristics of whatever life form it landed on. It could have been a dog, in which case the Alien would have taken on a dog form. The result is a combination of two elements: the original creature and whatever host it uses.

During the course of designing, the Alien went through many changes, becoming more refined and more animal-like. I wanted it to look animal-like, rather than fantastic—because the word fantastic means "not quite real", and I wanted it to look real.

Designing the creature in all of its phases was a difficult problem—getting the forms and textures right and all that—but getting from the design on paper to the actual thing was the worst area. What may look great on paper you may never be able to get to look right when you construct it, or you may have such a colossal weight problem that it becomes an impracticality. The mechanism of how we would make the face and head function became just too much, in the short time that we had, for Giger to tackle. We had put a work force of people around him that would come up with all the elements involved in the derelict spaceship, the interior of the derelict, and the Alien. Sculptures and working

scale models of these would then be handed to the Construction Department, which would have to build them and make them work. Every process was difficult, and to keep it within its budget was even more difficult.

At this point, Carlo Rambaldi, who is a mechanical genius, came onto the project. He was an industrial designer originally, so there was a great deal of practicality attached to his artistry. He looked at the head, loved the artwork and the whole intention of the film and, even though he was up to his eyes in other things, he was somehow able to say, "Okay, I can get involved in the face and make various things happen." And so, he came in for three or four weeks, working with Giger.

Carlo Rambaldi designed the mechanics of the head, made the lips work, made the jaws function. Normally you can't stand to have the camera take a close look at things like this, but it was so good and I was so pleased with it that I just did a huge closeup on it.

I feel that in the process of feature-making, the director should be involved straight through—and so I have been. The editor, Terry Rawlings, was cutting the film behind me all the way. As I was shooting, he was editing, so every night I was able to see what was happening. We would discuss it and he would make refinements, then carry on making assemblies as the footage was coming in. This worked so well that eight days after the end of shooting in October we were able to show 20th Century-Fox a two-hour and 22-minute cut.

Of course, long before that stage was reached, the people at Fox had got wind of the fact that we were working on something special and I think that it grew in their estimation from the original $4,500,000 film they had planned to something that might really have a shot for them the following year. And so, very soon, the May 25 release date became a fact that we had to stick to. Consequently, Fox then kept a very close eye on it all the way through.

We had to keep showing cuts four times during the filming—leaving huge gaps here and there for special effects shots and miniatures. The Fox people were fully convinced that they were going to run the film in theaters on May 25, so, at whatever cost, we had to get it out. This meant that at the end of shooting the principal action there was no let-up whatsoever. I had to go crashing straight across from Shepperton to Bray Studios, where the effects and miniatures were to be shot. Derek had finished at Shepperton and now I was joined at Bray by the miniature effects Director of Photography, Denys Ayling, and Special Effects

Supervisor, Nick Allder, who came across with his floor effects unit from Shepperton.

I got involved with the model-making and shooting and found it to be just amazing, really interesting. I had my editing rooms at Bray, so I was editing while still shooting. The process of filming miniature shots carried on right up to the last minute. You do it and it's not quite right, so you do it again—and maybe again, until eventually there comes a point where you have to be practical and say, "That's good enough." The whole process was a railroad track right through to May 25. There was no let-up at all.

In the making of a film like ALIEN, there is a whole large group of individuals who tend to get overlooked and who don't get enough emphasis really. The Art Department is a prime example. Their budget alone approached $2,000,000. That means that there was a huge amount of designing, apart from the overall visual concept. Then there was the challenge of taking that visual concept and building it in the form of sets that will work on film. You are then actually constructing reality. That can be well done or it can be really badly done. I feel that in the case of ALIEN it was extremely well done.

There were several key people in the Art Department who worked closely with Michael Seymour, my Production Designer, who really steered the whole thing in terms of the way it looked and who designed an awful lot of separate things. It takes a lot of courage to handle a budget like that, but he made it work.

Mike had two great guys working with him—Art Directors Roger Christian and Les Dilley. It was Dilley who really designed a lot of the exterior planet work and who was very involved in the model of planet terrain that was placed around the derelict spaceship. The derelict was a miniature about four feet across and it was sculpted by Peter Boysey. It was an absolutely superb sculptural work.

Roger Christian is a very special talent in that he is a master draftsman. There is an absolute art in what I call "grafitti" and it involves layers on layers of detail. It really is a form of graphic sculpture and everything looks like it works.

Then there was the Construction Manager, Bill Welch, who saved the film company a lot of money by holding strictly to schedule and always knowing where he was in relation to his budget. The carpenter and painter units working under him totalled nearly 200.

It takes an army of dedicated people to make a feature film—and on ALIEN we had a marvelous army. ■

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PROFESSIONAL filmmaker, top credits, shooting/cutting, 16-35-video. Call Jim (213) 994-8484.

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POSITION AVAILABLE—Well equipped University motion picture units seeks filmmaker who is experienced in his craft and desires to polish his creative skills. Applicant must already be experienced in the technical aspects of cinematography and editing and be ready to lead and train a crew. Additional experience in writing and directing desirable. Salary $10,284 per year. Send resume to: John R. Packwood, Motion Picture Production Manager; Georgia Center for Continuing Education; University of Georgia; Athens, GA 30602. Telephone (404) 542-1731.

LENS REPAIR TECHNICIAN, Century Precision Cine/Optics in North Hollywood, CA has an immediate opening for one or more qualified individuals. Experience on professional motion picture lenses (Angenieux, Canon, Zeiss, etc.) preferred, but we will consider qualified trainees with related experience such as 35mm SLR or instrument repair experience. Salary open, Call Bill Turner or Steve Manios collect at (213) 766-3715.

PROFESSIONAL CAMERA REPAIR TECHNICIAN. Victor Duncan, Inc. has openings in Dallas for professional camera repair technicians. Interested applicants should have a practical background in camera mechanics and optics. VDI offers a complete employee benefit package and excellent working conditions. Salary commensurate with experience. Call Frank Marasco collect in Dallas, (214) 369-1165.

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RAW FILM STOCK, 16/35mm will consider all types. Top cash. RAFIK, 814 Broadway, New York, NY 10003 (212) 475-7884. Collect.

BELL & HOWELL HR or DR cameras, 400 magazines, finders, 115AC motor 41-1 ratio, Kodak K-100 cameras. NATIONAL FILM COMPANY, 10302 Kingspoint, Houston, TX 77075.

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Optical printers, contact printers, animation stands, cameras, film cleaners, color analyzers, tape punches/duplicators, processors, editors, etc. We have customers all over the world for good used photographic equipment. Contact Don Stults, PIONEER MARKETING CORP., 1021 N. Lake St., Burbank, CA 91502, (213) 843-0530.

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MITCHELL S35 or R35 MK II camera wanted. May be with or without lenses, magazines or motors. Write stating serial number, condition and price required. Reply to EUROSHOOT FILMS, 2645 Greenvalley Road, Los Angeles, 90046.

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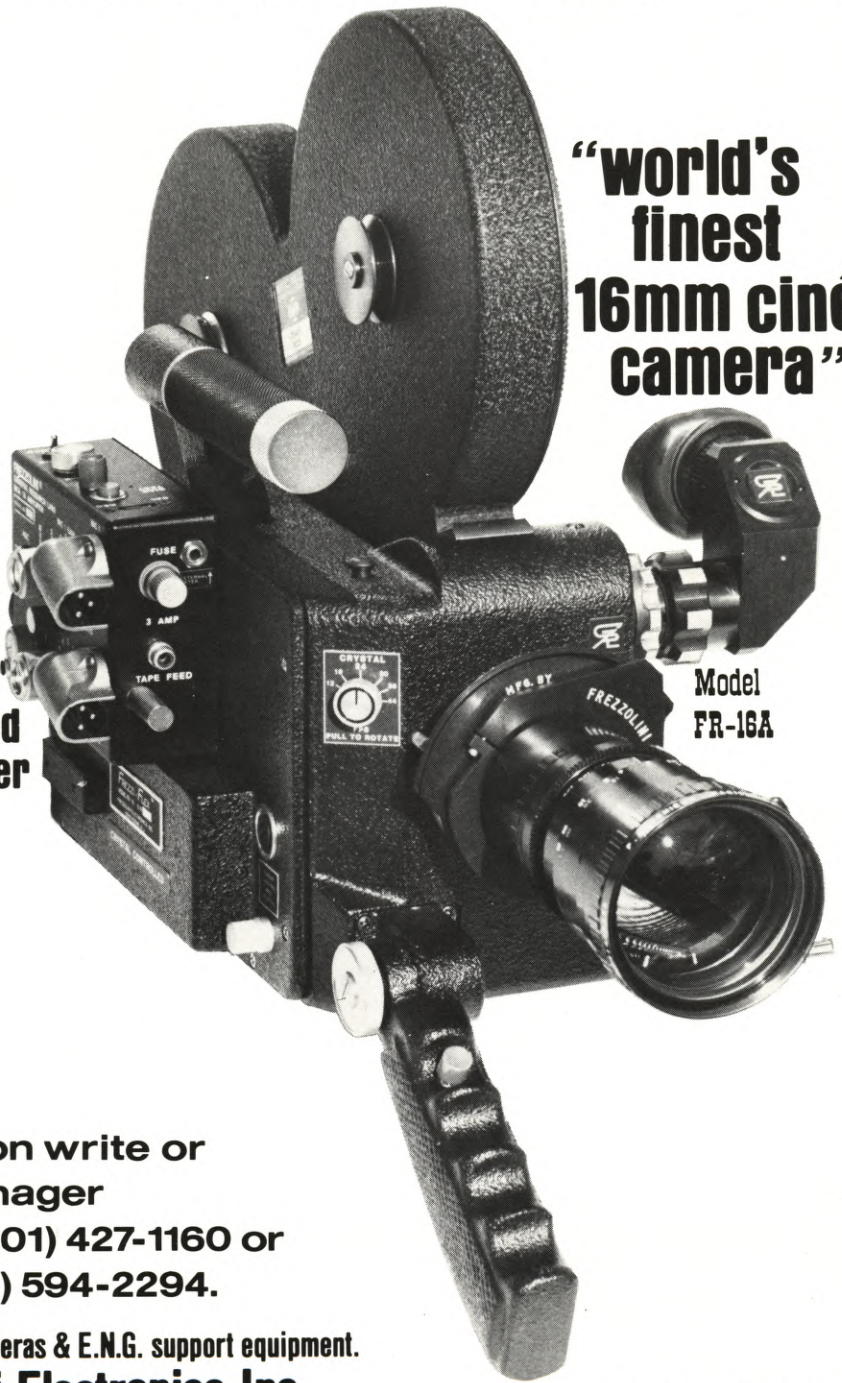

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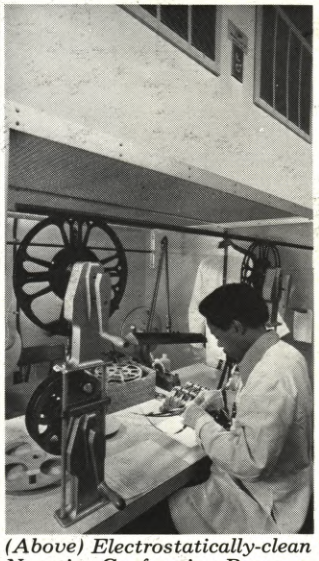

(Above) Electrostatically-clean Negative Conforming Room

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