American Cinematographer
International Journal of Motion Picture Photography and Production Techniques

APRIL 1976/ONE DOLLAR

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FILMING THE XII WINTER OLYMPIC GAMES

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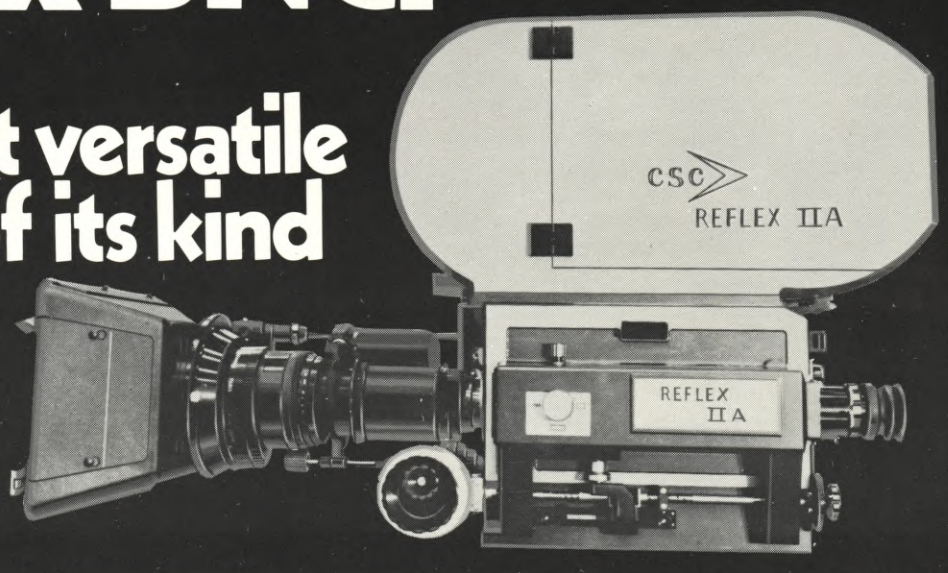

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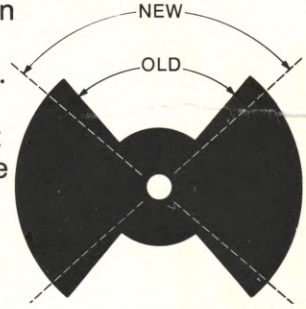

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16MM. CAMERAS

Eclair NPR 16mm., 400' magazine, crystal motor, motor cable, TV ground glass, & carrying case	Used	$ 5,500.00
Eclair NPR Super 16, 400' magazine, 12V constant speed motor, motor cable, & hi-hat adapter	Used	5,795.00
Eclair NPR Super 16, 400' magazine, crystal motor, & motor cable	Used	6,395.00
Eclair ACL 16mm., 24 fps crystal motor, motor cable, 2-200' magazines, & carrying case	Used	5250.00
Eclair ACL 16mm., 24 fps crystal motor, motor cable, 2-400' magazines, & carrying case	Used	5,500.00
Arriflex 16mm. BL, 400' magazine, 12V constant speed motor, motor cable, TV ground glass, 12 x 120 Angenieux zoom lens, matte box, & carrying case	Used	8500.00
Arriflex 16S, variable speed motor, motor cable, 1-400' magazine and torque motor, & carrying case	Used	2,995.00
Arriflex 16S sync generator, variable speed motor, motor cable, 1-400' magazine and torque motor, & carrying case	Used	3,100.00
Auricon Super 1200 magnetic, 12 x 120 Angenieux zoom lens w/10½" viewfinder, 2-1200' magazines, & carrying cases	Used	3,150.00
Auricon SSII conversion (magnetic), 2-400' Mitchell magazines, 12 x 120 Angenieux zoom lens w/7½" viewfinder, & carrying case	Used	2000.00
Auricon SSII conversion (magnetic), 2-400' Mitchell magazines, & carrying case	Used	1100.00
General Camera SSIII (magnesium), 2-400' Mitchell magazines, 12 x 120 Angenieux zoom lens w/mini-finder, & carrying case	Used	2500.00
General Camera SSIII (magnesium), 2-400' Mitchell magazines, & carrying case New $2495.00	Used	1500.00
Milliken DBM 5A 16mm. High Speed camera, 24 fps variable speed (AC/DC), 12 x 120 Angenieux zoom lens w/7½" viewfinder, & carrying case	Used	3,100.00
Locam 164-5DC 16mm. High Speed camera, 16-500 fps variable speed, 12 x 120 Angenieux zoom lens w/7½" viewfinder, & carrying case	Used	3650.00
Canon Scoopic 16mm., 13-76mm. zoom lens fl. 6, 2-rechargeable batteries, battery charger, & carrying case	Used	625.00
B & H Filmo 70DR camera body, filter slot, gel holder, & carrying case	Used	295.00

16MM. LENSES

12 x 120mm. Angenieux zoom Eclair mount	Used	$ 960.00
12 x 120mm. Angenieux zoom "C" mount New 1630.00	Used	900.00
12 x 120mm. Angenieux zoom Arri mount	Used	950.00
12 x 120mm. Angenieux w/7½" viewfinder New 1800.00	Used	1025.00
12 x 120mm. Angenieux w/3" "mini" or "uni" viewfinder New $1610.00	Used	1075.00
12 x 120mm. Angenieux w/AV-30 viewfinder	New	1720.00
9.5 x 57mm. Angenieux Eclair mount New 2300.00	Used	1595.00
9.5 x 57mm. Angenieux "C" mount	New	2010.00
9.5 x 57mm. Angenieux w/AV-30 viewfinder	New	2650.00
9.5 x 95mm. Angenieux Arri mount	Used	1895.00
9.5 x 95mm. Angenieux Eclair mount	Used	1925.00
9.5 x 95mm. Angenieux w/7½" viewfinder	Used	2475.00
9.5 x 95mm. Angenieux w/3" "mini" or "uni" viewfinder	Used	2495.00
12 x 240mm. Angenieux Eclair mount	Used	2500.00
12 x 240mm. Angenieux Arri mount	Used	2500.00
15 x 150mm. Canon Super 16 format "C" mount	Used	750.00
17 x 68mm. Angenieux zoom w/viewfinder	New	575.00
12.5 x 50mm. Angenieux zoom w/viewfinder	New	675.00
5.7mm. fl.8 Tegea Arri mount	Used	650.00
10mm. fl.6 Switar "C" mount	Used	125.00
10mm. fl.8 Angenieux "C" mount	Used	250.00
10mm. fl.8 Cinegon Arri mount	Used	325.00
16mm. f2 Cine-Xenon Arri mount	Used	195.00
25mm. fl.9 Cine-Ektar "C" mount	Used	75.00
25mm. fl.4 Cine-Xenon Arri mount	Used	275.00
50mm. fl.9 Cine-Ektar "C" mount	Used	75.00
75mm. fl.9 Switar "C" mount	Used	215.00
102mm. f2.7 Cine-Ektar "C" mount	Used	85.00
152mm. f4 Cine-Ektar "C" mount	Used	85.00

35MM. CAMERAS

Arriflex 35mm. 2C w/sync generator, 400' magazine, matte box, variable speed motor, motor cable, & carrying case	Used	$ 3950.00
Arriflex 35mm. 2C w/sync generator, 28, 50, 75mm. Cine-Xenon prime lenses, 400' magazine, matte box, variable speed motor, motor cable, & carrying case	Used	4600.00
Arriflex 35mm. 2B w/variable speed motor, motor cable, 3-lenses, 2-400' magazines, matte box, & carrying case	Used	2000.00
Bell & Howell single lens eyemo w/1-lens & carrying case	Used	325.00
Bell & Howell Reflex eyemo (MKII) w/carrying case	Used	525.00
Bell & Howell single frame reflex eyemo w/90mm. Macro lens, & carrying case	Used	615.00
Mitchell 35mm. Standard with AC/DC wild motor, 3-lenses, 2-1000' magazines, & all carrying cases	Used	2200.00
Mitchell 35mm. NC w/25, 35, 40, 50mm. Baltar lenses, 2-1000' magazines, 12V DC motor, motor cable matte box, & all cases	Used	3800.00
Mitchell 35mm. BNC w/25, 35, 40, 50, 75, 100mm. Cooke lenses, 2-1000' magazines and magazine housing, 110V or 220V motor, motor cable, side finder, & all cases	Used	$16,500.00

35MM. LENSES

25 x 250mm. Angenieux zoom, Arri or MKII mount, w/sunshade, zoom rods, & carrying case	Used	$ 3995.00
35 x 140mm. Angenieux zoom, Arri mount	Used	1200.00
38 x 154mm. Berthiot anamorphic zoom, Arri mount, w/case	Used	1595.00
24 x 240mm. Angenieux zoom, BNC mount, w/finder & case	Used	1700.00
9.8mm. fl.8 Tegea, Arri mount New $950.00	Used	725.00
14.5mm. f3.5 Angenieux, Arri mount	Used	450.00
18mm. fl.7 Cooke Speed Panchro, BNC mount	Used	260.00
18.5mm. f2.2 Angenieux, Arri mount	Used	290.00
24mm. f2.2 Angenieux, Arri mount	Used	290.00
25mm. f2.5 Baltar, BNC mount	Used	245.00
28mm. f2 Cine-Xenon, Arri mount	Used	195.00
28mm. f2 Cooke Speed Panchro, BNC mount	Used	240.00
30mm. f2.5 Baltar, BNC mount	Used	235.00
32mm. f2 Astro-Berlin, Arri mount	Used	180.00
35mm. f2.3 Baltar, Arri mount	Used	200.00
35mm. f2 Cooke Speed Panchro, BNC mount	Used	235.00
35mm. f2.5 Baltar, BNC mount	Used	230.00
40mm. f2.3 Baltar BNC mount	Used	230.00
40mm. f2 Cooke Speed Panchro, BNC mount	Used	235.00
40mm. fl.8 Angenieux, Arri mount	Used	280.00
40mm. f2.3 Baltar, Arri mount	Used	200.00
40mm. Macro-Kilar, Arri mount	Used	85.00
50mm. f2 Cooke Speed Panchro, BNC mount	Used	230.00
50mm. f2.3 Baltar, BNC mount	Used	225.00
50mm. f2 Cine-Xenon, Arri mount	Used	225.00
50mm. fl.3 Kinoptik, Arri mount	Used	475.00
75mm. f2 Cine-Xenon, Arri mount	Used	235.00
75mm. f2.3 Baltar, BNC mount	Used	220.00
75mm. f2 Cooke Speed Panchro, BNC mount	Used	230.00
90mm. Macro-Kilar, Arri mount	Used	139.00
100mm. f2.5 Cooke Speed Panchro, BNC mount	Used	230.00

100mm. f2.2 Angenieux, MKII mount	Used	$ 450.00
100mm. f2.2 Angenieux, Arri mount	Used	500.00
100mm. f2 Kinoptik, Arri mount	Used	450.00
100mm. f2 Astro-Berlin, Arri mount	Used	325.00
100mm. f2.3 Baltar, BNC mount	Used	220.00
150mm. f3.5 Kilar, Arri mount	Used	125.00
300mm. f5.6 Tele-Kilar, Arri mount	Used	200.00
500mm. f5.6 Anastigmat, Arri mount	Used	375.00
500mm. Tele-Annalyt, Arri mount	Used	325.00

CAMERA BLIMPS

Arriflex 35mm. 120S steel blimp w/zoom port, DC constant speed motor, motor cable, matte box, & case	Used	$ 2495.00
Arriflex 35mm. 120S steel blimp w/120V AC motor, motor cable, matte box, & case	Used	1950.00
Arriflex 35mm. 400 steel blimp w/120V AC motor, motor cable, matte box, & case	Used	1500.00
Arriflex 16mm. steel blimp w/120V AC motor, motor cable, & case	Used	1500.00
Cine 60 35mm. plastic blimp w/2-power cables, matte box, & carrying case	Used	1100.00
Cine 60 35mm. plastic motorized zoom port for 25 x 250mm. w/zoom motor, control, follow focus device, & case	Used	875.00

MOTORS

Eclair NPR Beala crystal motor New $2150.00	Used	$ 1295.00
Eclair NPR Perfectone crystal motor	Used	1295.00
Arriflex 16S 8V constant speed motor	Used	295.00
Arriflex 16BL AC sync motor, w/transformer & cable	Used	250.00
Arriflex 16S AC sync motor w/power supply & frame counter	Used	350.00
Arriflex 35 constant speed motor	Used	365.00
Arriflex 35 variable speed motor	Used	220.00
Eclair NPR 115V Perfectone AC motor w/motor cable	Used	495.00
Arriflex 35 2C High Speed motor w/rheostat & cables	Used	495.00
Vicon Servo zoom motor (25 x 250mm.) w/control & cables	Used	175.00
Arriflex 16S torque motor	Used	215.00
Eurotechnica flat motor base (Arriflex 35) New 225.00	Used	149.00

MAGAZINES

400' x 16mm. Mitchell magnesium magazine New $125.00	Used	$ 75.00
400' x 16mm. Mitchell-type magnesium magazine New 98.00	Used	60.00
1200' x 16mm. Mitchell mag. New 425.00	Used	250.00
400' x 16mm. Arriflex 16S magazine	Used	220.00
400' x 16mm. Arriflex 16M magazine	Used	285.00
400' x 16mm. Arriflex 16 BL magazine	Used	415.00
200' x 16mm. Arriflex 16M magazine	Used	225.00
400' x 16mm. ACL magazine	Used	1325.00
400' x 16mm. NPR magazine	Used	1325.00
200' x 16mm. ACL magazine	Used	1050.00
1000' x 35mm. Mitchell standard magazine	Used	165.00
1000' x 35mm. Mitchell NC magazine	Used	315.00
400' x 35mm. Eyemo magazine	Used	25.00
400' x 35mm. Mitchell Standard magazine	Used	95.00

HEADS, TRIPODS, & MOUNTING EQUIPMENT

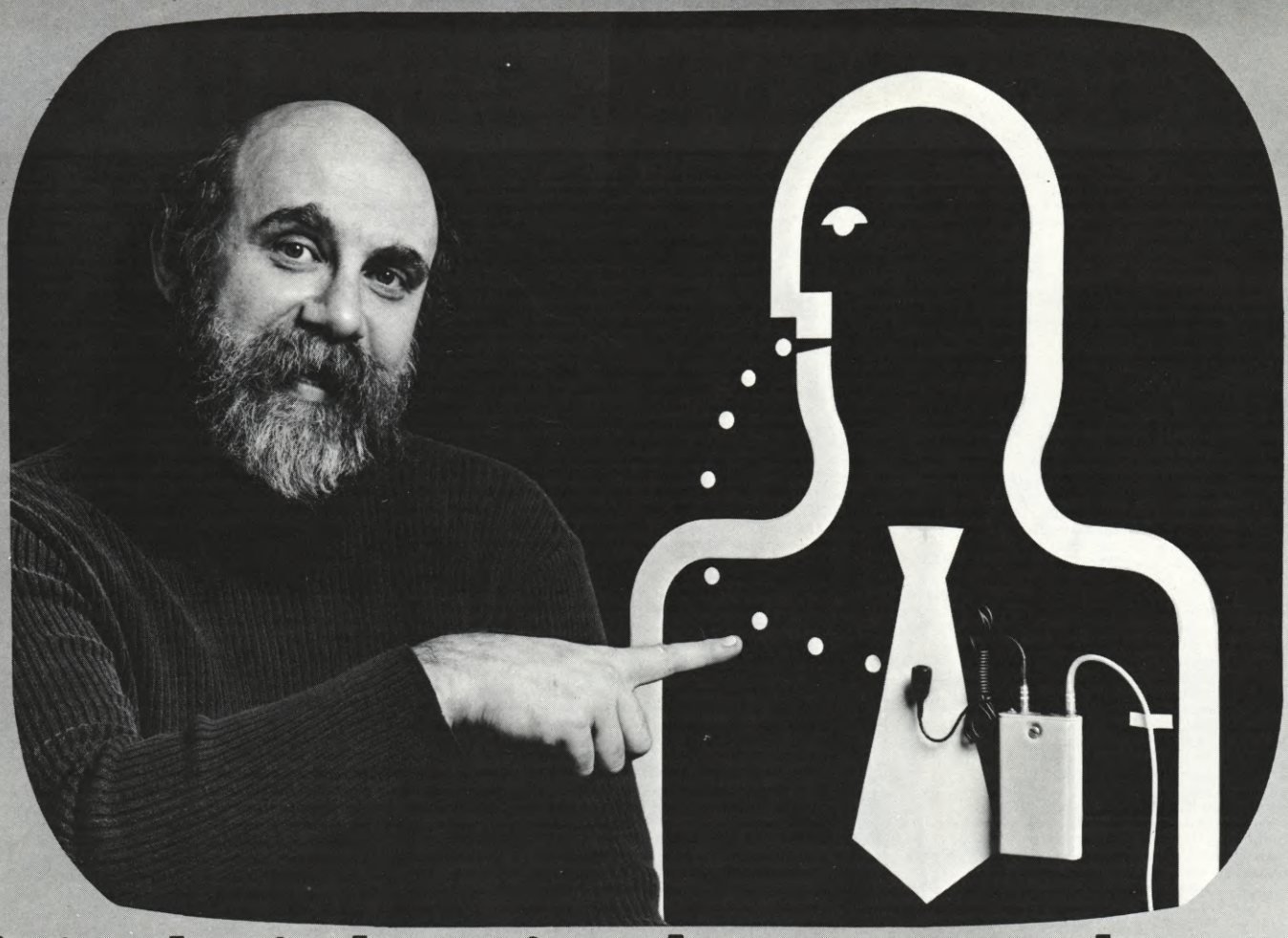
Akely Gyro Head w/Standard Legs	Used	$ 95.00
Akely Hi-Hat	Used	15.00
Arriflex Gyro Head w/Standard Legs	Used	175.00
Arriflex Friction Head w/Standard Legs	Used	150.00
Arriflex Baby Legs	Used	30.00
Cartoni Gyro Head w/Standard Legs	Used	150.00
Cartoni Metal Baby Legs	New	75.00
Cartoni Wood Baby Legs	New	75.00
Cartoni Wood Standard Legs	New	85.00
Pro-Jr. Friction Head w/Standard Legs New 175.00	Used	125.00
Pro-Jr. Hi-Hat New 35.00	Used	15.00
Pro-Jr. Baby Legs New 95.00	Used	65.00
NCE Fluid Head w/Standard Legs	Used	325.00
NCE Baby Legs	Used	75.00
NCE Hi-Hat	Used	20.00
Cinekad Body Brace New 65.00	Used	35.00
SSIII Rotating Shoulder Pod New 75.00	Used	30.00
3-Wheel Triangle Dolly w/Case	Used	40.00
Cine 60 Quick Release Plate	New	85.00
Eclair NPR Camera Barney	New	90.00

SOUND

Nagra 4L Recorder loaded, ATN unit, leather carrying case, Beyer headset, & heavy duty carrying case	Used	$ 2495.00
Nagra 3 Recorder, ATN unit, leather carrying case, Beyer headset, & heavy duty carrying case	Used	1500.00
Electrovoice 666 Mike	Used	40.00
Electrovoice 655 Mike	Used	35.00
Electrovoice 655C Mike	New	55.00
Electrovoice 642 Shotgun Mike, windscreen, shock mount, & cable New 315.00	Used	175.00
Electrovoice 635 Mike	Used	30.00
Electrovoice 635A Mike	New	45.00
Electrovoice 649B Lavalier New 55.00	Used	35.00
Electrovoice RE-15 Mike New 140.00	Used	75.00
Sony ECM-16 Lavalier	New	15.95
Sony ECM-22P Mike	New	75.00
Sony ECM-51 Mike	New	119.60
RCA BK6B Lavalier Mike	Used	25.00
Uher Report L Recorder w/carrying case	Used	75.00
Uher 4000 Report L Recorder	New	400.00
Shure M67 Professional Mixer	Used	115.00
Nagra ATN Power Supplies for 3 or 4	Used	60.00
Sennheiser 804 Shotgun Mike, battery adapter, cable, windscreen, shock mount, & carrying case	Used	425.00
Sennheiser 404 Condenser Mike, battery adapter, cable, windscreen, & carrying case	Used	325.00
Sennheiser R1010 Receiver/SK1007 Transmitter Wireless Mike w/cables & antennas	Used	450.00
Back-Auricon MA-11 Magnetic Amplifier, charger, rechargeable battery, E-7 Mike & cable, desk stand, headset, & carrying case	Used	750.00
MA-11 Carrying Case	New	50.00
General Camera GCA Magnetic Amplifier, carrying strap, belt clip, charger, rechargeable battery, & carrying case	New	450.00
General Camera Auto-Slate Box	New	95.00
EMB Blue Ribbon Magnetic Recording Head	New	425.00
Sony TC-110A Cassette Recorders	New	98.00
Sony TC-55 Cassette Recorders	New	119.00
Sony TC-142 Cassette Recorders	New	161.00
Bach-Auricon Magnetic Recording Head	New	500.00

EDITING EQUIPMENT

Moviola 35mm. UD20CS w/separate magnetic head	Used	$ 2150.00
Moviola 50-R 16mm. Viewer New $225.00	Used	165.00
Moviola SZA Synchronizer w/counter	New	88.00
Maier Hancock # 1635 Hot Splicer New 275.00	Used	195.00
Maier Hancock #816 Super 8 Hot Splicer	New	225.00
Maier Hancock #816 Hot Splicer	Used	195.00
Moviola URS Amplifier	New	65.00
Moviscope 16mm. Viewer New 199.50	Used	115.00
Neumade Edit table w/lamp well & film rack	Used	149.00
Editing Bin w/rack	Used	50.00
Griswold 16mm. Splicer	Used	25.00



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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.

APRIL, 1976 **VOL. 57, NO. 4**

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Blueprint for a theatrical feature in which pictures will not be used merely to back up a rock score, but in which the excitement of the music will merge with and enhance the excitement of the visuals.

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ON THE COVER: Film crews at work shooting spectacular sports footage in Innsbruck for "WHITE ROCK", official film of the 1976 Olympic Games. In the center: Official insignia of the Innsbruck Games.

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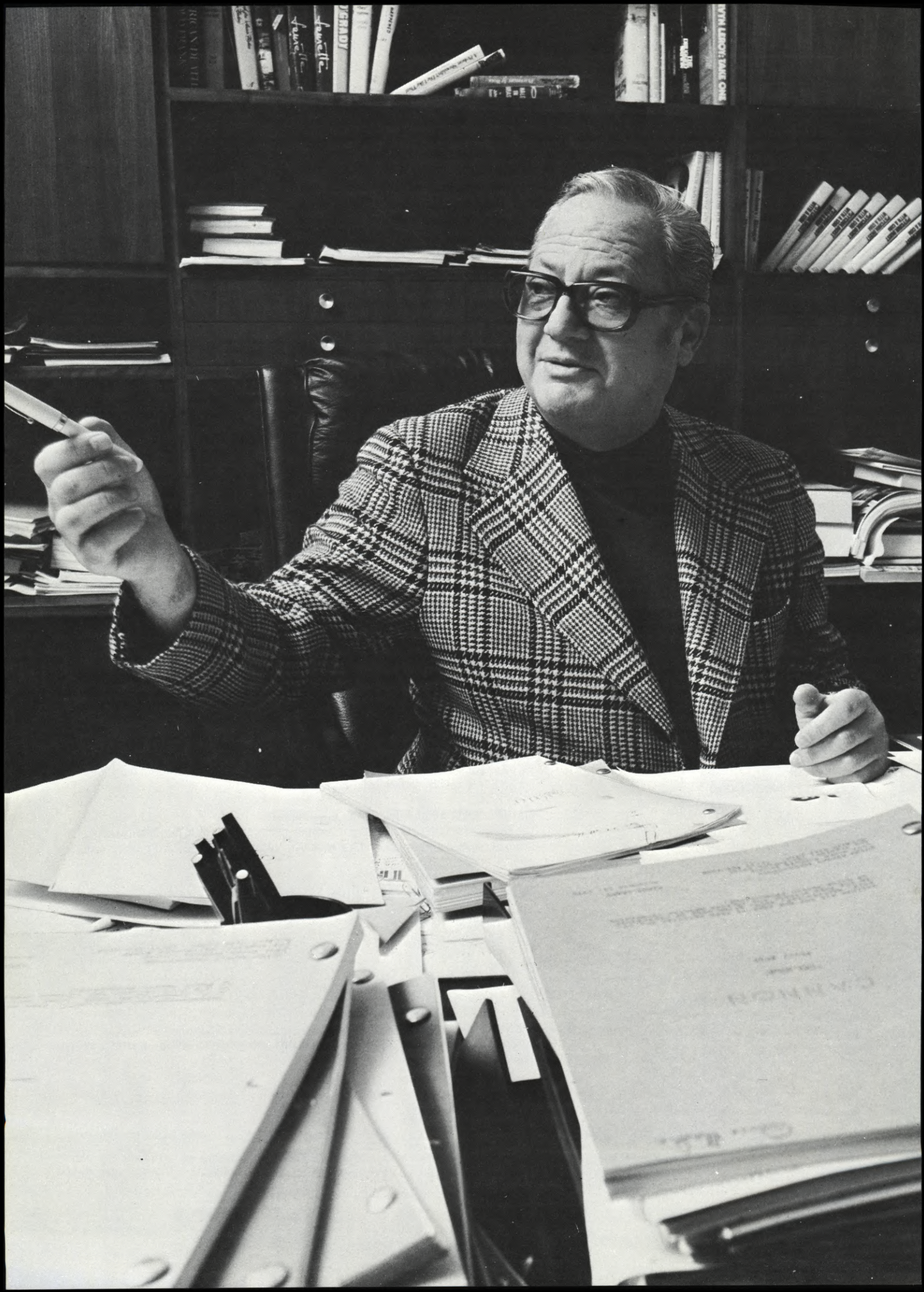

QUINN MARTIN

How do you produce a TV show that gets a seventy-three share? What's the secret of producing one series after another, running season after season, while others have trouble surviving thirteen episodes?

For the answers to these and other questions, we've gone to the same source as the networks—to Quinn Martin.

Quinn, how did you get started in the film business?

I started out as a film editor, became a writer, then a producer.

What was your first major success?

The first critical success I had was a film for television called "Bernadette," but the show that probably played the most important part in my career was "The Untouchables."

When I formed my own company in 1960, one of our first shows was "The Fugitive." It became the number one show, won an Emmy for "Best Dramatic Show," and was critically acclaimed. So I would say, for me, even though "The Untouchables" was the show that gave me a big start, "The Fugitive" is the one I'll always have in my heart because it cemented the company's name as a producer of quality products.

I remember the original two-hour "Untouchables." Part Two, which played a week later, got one of the highest ratings ever, as did the last episode of "The Fugitive."

What changes have you noticed in production methods from those shows and the ones you have on the air now?

If I made any mark in this business, it was to force television off the sound stages and back lots. People were horrified at my wanting to shoot on real locations. Now it's a common practice for us to shoot five out of seven days on locations. We average about forty setups a day.

This has been made possible by the improvements in camera equipment and film.

One of the reasons I accepted doing this interview is I have no problem doing it. I don't normally do these kinds of things, but I like Eastman Kodak Company. They're always there. You know you're dealing with a company that is constantly working, upgrading the product, researching new ones.

When their new, fine-grain Eastman color negative II film 5247 came out, "Streets of San Francisco" was one of the first series to use it. We thought it would be perfect for the dramatic documentary look we wanted. Frankly, I wasn't too happy with it then because we had problems with backgrounds changing colors. We called in a Kodak consultant, got together at the lab, and after doing a lot of tests, we ironed out the problems. Kodak kept improving it and now I think it's probably the finest stock I've ever seen.

Have you ever used videotape?

No, I've never worked with tape. It may become a reality some day for action adventure shows, but I feel the equipment has to improve some more. Also, I like the subtle way with which lighting can be handled on film. I still like to paint through my cinematographer.

I notice your desk is covered with scripts. What are some basic things you look for?

Scripts that deal with human emotions, that don't write down to people. I believe you have to give people credit for their level of understanding. If they don't understand it intellectually, they'll understand it emotionally. Whatever success we've had comes from the attitude that people deserve better.

One of our TV movies, "Attack On Terror," was about the three civil rights workers killed in the South in 1965. It wasn't a popular subject, but we felt it should be done. As it turned out, it was one of the highest rated shows of the year.

You have three series running—"Cannon," "Streets of San Francisco," and "Barnaby Jones"—as well as four pilots, some "Movies of the Week," and other projects in the works. How do you manage to supervise it all?

In essence, I run a benevolent dictatorship. Everybody has a say in the company. But in the final analysis, I have the responsibility to the network, so I have to make the final decisions.

But we get good ideas from everybody. I surround myself with good people—that's another secret. You should always try to get the best people. You can't learn anything from someone who is dumber than you are. Then you set a climate that they can work well in.

I have a positive viewpoint. I think anybody that has talent and is willing to work hard can make a mark in this business. The Horatio Alger myth still exists in America.

THE HONOR ROLL

TRIBUTE PAID TO HOWE AT ASC CLUBHOUSE

Good evening, Ladies and Gentlemen. Tonight we are honoring a most remarkable man, Jimmy Wong Howe. These words were heard in the packed-to-overflowing American Society of Cinematographers' Clubhouse on Orange Drive on the evening of February 23, 1976, as cinematographers and press joined to honor James Wong Howe after a brilliant 58-year career.

Born in the Chinese province of Kwangtung, Wong Tung Jim came to America as a child and settled with his parents in the Pacific Northwest.

He began his distinguished career as a clean-up man in the camera department of Jesse Lasky Studios and then moved up to clapper boy for Cecil B. DeMille. It didn't take him long to decide that there were more important things to do in the movies and began cranking the camera for practice until he got a steady 16-frames-per-second rhythm.

In 1922 he received his first break as a cameraman when he was given an assignment to photograph a Mary Minter Miles picture. He had reached the top of his career when he decided to take an extended vacation in triumph back to China. During his vacation, sound came into being in Hollywood and when Jimmy returned to the United States no one would take a chance on him. During the lean period while he was waiting for a chance, he continued to study and investigate the new process so that when William K. Howard, signed to direct "Transatlantic", insisted upon having Howe as his first cameraman, Jimmy was ready for the assignment. He purchased a special type of lens for $600 and created a furor with his photography and found himself back in the "big time".

Roy Clark, Assistant Cameraman, and Martin Ritt, Director, join ASC cameramen and press to commemorate James Wong Howe's 58-year motion picture career.

Howe is a stickler for natural, story-value photography, permitting audiences to see people and things as they actually would be in a given locale in real life. Because of this concern for realism he has always believed in lighting sets as they would appear naturally. Through all the interviews with Howe, throughout all the years, lighting has been the major topic of conversation. Lighting helps him to weave his photography as an integral, dramatic part of the screen entertainment to satisfy the eyes of the audience.

In an interview 35 years ago, Howe was described as "universally recognized as ranking high among the half-dozen greatest camera-artists of the world. And he has held that ranking for close on twenty years." The only dis-

Continued on Page 476

(LEFT) Lester Shorr, ASC President, presents engraved desk set to James Wong Howe. (RIGHT) Douglas Wright, Motion Picture Hall of Fame, presents Membership Plaque to Howe, and Shorr cheers on the proceedings.

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PRO is a three-letter word meaning EXPERT. For this reason, we at Alan Gordon Enterprises have worked diligently to become the best-known three-letter word in Hollywood when it comes to offering you rental motion picture equipment. AGE equipment is up-to-date, dependable and meticulously prepared to meet your specific needs while still staying within your budget allocation.

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A partial list of recent films using AGE Inc. rental equipment:

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LOUIS ARMSTRONG CHICAGO STYLE, Dick Berg Productions in association with Charles Fries Productions, Dick Berg, Executive Producer, Lee Phillips, Producer and Director, Richard C. Glouner, ASC, Director of Photography.

CARL SANDBURG'S LINCOLN, Wolper Productions, George Schaefer, Producer/Director, Howard Schwartz, ASC, Director of Photography.

RUN JOE RUN, William D'Angelo Productions, William D'Angelo, Executive Producer, Alan Stensvold, ASC, Director of Photography.

COOLEY HIGH, Bud Yorkin Productions, Bud Yorkin, Producer, Howard Schwartz, ASC, Director of Photography.

AMOROUS ADVENTURES OF DON QUIXOTE, Dalia Productions, Raphael Nussbaum, Producer/Director, William De Diego, Director of Photography.

SAM HOUSTON, Wolper Productions, Robert Larson, Producer, Richard Heffron, Director, Robert Sparks, Director of Photography.

LADY LUCK, Crown International Release, Noel Nosseck, Producer, Stephen Katz, Director of Photography.

JUDGE HORTON AND THE SCOTSBORO BOYS, Tomorrow Entertainment Inc., Paul Leaf, Producer, Fiedler Cook, Director, Mario Tossi, Director of Photography.

WESTWIND TO HAWAII, William D'Angelo Productions, William D'Angelo, Executive Producer, Alan Stensvold, ASC, Director of Photography.

COLUMBO, "INDEMNITY CRISIS," Universal Studios, Patrick McGoohan, Director, Richard C. Glouner, ASC, Director of Photography.

PAPA, William D'Angelo Productions, William D'Angelo, Executive Producer/Director, Alan Stensvold, ASC, Director of Photography.

THE GREAT AMERICAN COWBOY, Academy Award Winner for Best Documentary Feature, Keith Merrill Productions, Keith Merrill, Producer/Director/Cinematographer.

Write For Free Rental Catalog:

COOLEY HIGH, American International Pictures, Elliot Schick, Executive Producer, Steve Krantz, Producer, Michael Schultz, Director, Paul Vom Brock, Director of Photography.

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CBS SPORTS: Motocross, L.A. Coliseum; Laguna Seca Motorcycle Grand Prix; Skateboard Championship, San Diego; Hang Glider Championship, El Toro; Long Beach 500 Grand Prix; Bonneville Salt Flats-Don Vesco Yamaha Silverbird; Farrari Record Endurance Run.

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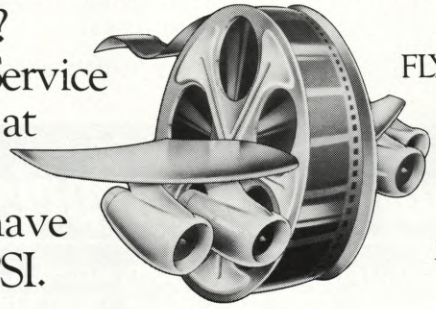

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QUESTIONS & ANSWERS

Conducted by CHARLES G. CLARKE, ASC. and WINTON HOCH, ASC.

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

Q In the 1974 production of "THE THREE MUSKETEERS", the film begins with two men in a side-lighted foiling match. As one strikes at the other, his movements are enhanced by a "strobing effect". The initial movement is multiplied and momentarily frozen in several stages of the action, whereupon the last portion begins a follow-up until all the various stages have once again joined the primary image. How is this done?

A The effect you describe is the result of expert manipulation in an optical printer. It may also have been advisable to have shot the action with synchronized strobe lighting in order to obtain sharp images.

The separation of the action and the subsequent joining of the images reflect the skill and imagination of the special effects man who planned and executed the program.

Q B&H's most advanced contact printer, model "CL", only guarantees resolution of 50 lines/mm over the printed frame. Is it true that after working with extreme care to achieve resolution in the negative approaching 100 lines/mm, one cannot get corresponding sharpness in the release print despite the extreme sharpness of the print stock? What are the factors limiting resolution in continuous contact printing?

A Consider some of the indispensable conditions for attaining the ultimate degree of resolution in a single frame of print:

1. Negative and positive both motionless so that there is no possibility of slippage between them during exposure.
2. Both in contact in a vacuum to eliminate any air space between them.
3. Perfect contact assured by extreme pressure squeezing them together.
4. Making the exposure by means of pure specular (non-diffuse) light.
5. Using a very thin positive emulsion to reduce irradiation (bouncing of light off the silver bromide grains causing other grains to be exposed).

When you realize that not even a single one of these requirements exists in a continuous contact motion picture printer, you must acknowledge that attaining 50 lines/mm over the printed frame is a great triumph of technology.

Q I am doing several short films which will use mainly color still transparencies (or negatives). They are primarily intended for educational television use though there is a possibility of making some distribution prints. I am going to use 35mm for the originals and copy them on 16mm. What would be the best films to use to avoid excessive contrast build-up?

A Obviously, you should shoot your originals on reversal color film so that you can subsequently photograph them. But, as you correctly imply, rephotographing reversal slides cannot be copied without building up the contrast and distorting the color rendition. Of course, these undesirable consequences can be counteracted by resorting to masking. This procedure is not simple and would represent either a great deal of learning and effort on your part or a great deal of expense if you have the masking done professionally.

However, there is an elegant solution to this problem which is available at no additional cost or effort. Simply shoot your slides on 35mm Eastman Ektachrome Commercial (ECO) film. This film, in 36-exposure cartridges, is sold, processed, and mounted by Consolidated Film Industries, Hollywood, CA 90038.

Your selected slides should then be copied on the same film material (ECO film) which is the standard way of shooting 16mm films. Prints can then be made either directly on reversal print film or, in large quantities, on positive print film using an internegative.

In order to get your final print properly balanced, your slides should be copied with the use of appropriate color-correcting filters with proper exposure intensities obtained by systematic testing. If you have no experience in copying slides, it may be advisable to have this work done by a professional laboratory skilled in this type of work. ■

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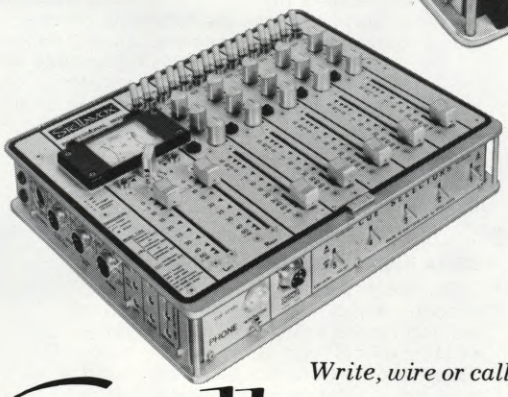

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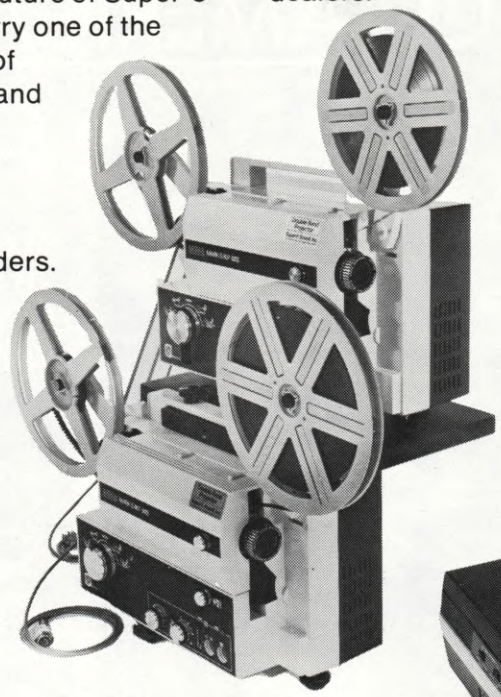

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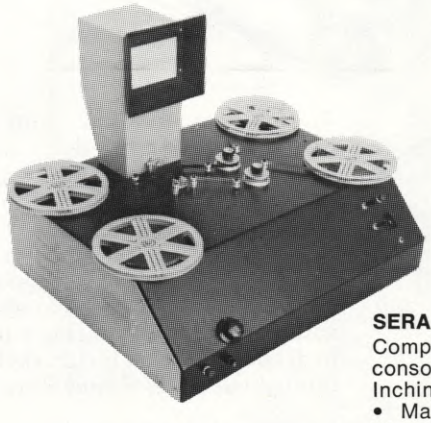

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Take the Scoopic 16M camera. Compact and quiet, it comes with a built-in 6:1 high speed zoom lens that's capable of focusing on objects as close as 3½" from its front component. In its bright viewfinder you get all the information you need to shoot by, including TV frameline, T-stop scale and over/under exposure warning marks.

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CINEMA WORKSHOP

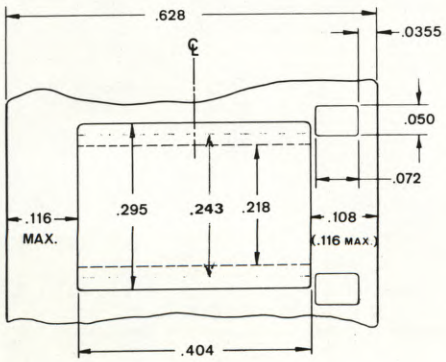
By ANTON WILSON

SUPER-16

The Super-16 system is, no doubt, the latest of format configurations, having been introduced commercially early in 1970. The pioneers of this format can probably best explain the design concepts. In Sweden, cinematographer Rune Ericson, who was using the 35mm format almost exclusively, was confronted with a project that required traveling around the world for six months with a small documentary-type crew. The project did not seem possible in 35mm, considering the size and weight of cameras, magazines, and film stock. Yet, Ericson was wary of a 16mm blow-up, especially due to the area wasted by the cropping necessary to achieve the 1.66:1 ratio for European wide-screen 35mm projection. Ericson conceived the idea of extending the width of the 16mm frame into the area normally reserved for the soundtrack. By doing so, he established an aspect ratio of 1.66:1 which required no cropping to fill a 35mm 1.66 blow-up. The tremendous increase in usable negative area and the resulting improvement in visual quality was great enough to make Super-16 a viable alternative for shooting a low-budget or documentary-style feature for ultimate 35mm wide-screen release.

While size, weight and mobility were Ericson's main concerns, Adrian Mosser of Cineservices in Hollywood was equally concerned with the monetary advantages of shooting in 16mm. Mosser, a specialist in 16mm-to-35mm blow-ups, was well aware of the financial and aesthetic advantages of the smaller format. Yet, like Ericson, he was struck with the inherent waste of the wide-screen crop on the already miniature format. In an effort to improve the quality of his 35mm blow-ups, Mosser also envisioned a wide-aspect ratio 16mm format.

FIGURE I — Regular 16mm. Notice that height is cropped from .295" to .243" for 1.66:1 and to .218" for 1.85:1. This represents a waste of 18% and 26% respectively.



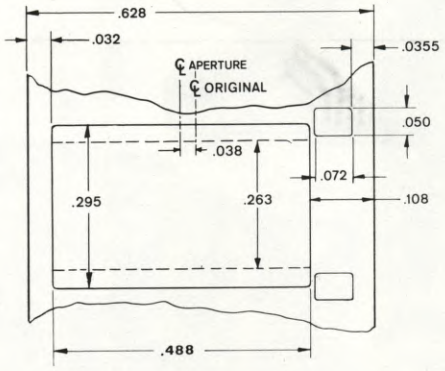


FIGURE II — Super-16. Width of frame is increased to .488". Note that left edge is reduced to .032" from the standard .116" in FIGURE I. The height must still be cropped to .263" for the 1.85:1 format. The full frame (.488" x .295") yields a ratio of 1.66:1.

This little historical retrospective of Super-16 began by mentioning 1970 as the introduction date of the wide-ratio 16mm format. This is most significant. At that time there were several self-blimped 16mm hand-held cameras, while no such instrument was available in the 35mm format. The Panaflex and Arri 35BL were still under development. The year 1970 also marked the introduction of the new fine-grain ECO 7252, as well as the new CRI color reversal internegative. All these facts enhanced the already attractive advantages of the newly introduced "Super-16" format.

Now, down to cold facts. First off, the term "Super-16" is somewhat of a misnomer. "Super-8" provides 50% more image area than regular 8 by employing narrower sprocket holes, thereby increasing frame width. Moreover the *pitch* of the film is proportionately increased to *maintain the same aspect ratio* (1.37:1). Super-8 has fewer frames per foot and, subsequently, less running time than a given length of regular 8. The so-called Super-16 does not modify sprocket holes, nor does it change pitch, but merely increases the width of the frame to establish a wider aspect ratio. The names "Wide Ratio 16", "Hi Aspect 16", or simply "Wide Screen 16" would have been more appropriate and descriptive. However, "Super 16" is, in any case, undoubtedly more in keeping with the American vernacular.

What is important here is not the name, but the fact that Super-16 has a very limited and specific application: namely, the ultimate blow-up to a wide screen 35mm release of 1.66:1 ratio or greater. The Super-16 format offers no advantage whatsoever if the final release ratio is 1.33:1, as for television (16 or 35). As a matter of fact, a 1.33:1 release from a Super-16 original will suffer, due to the optical step necessary to crop off the additional frame-width symmetrically from each side. A standard 16 original is merely contact-printed and will not suffer any unnecessary degradation.

Now that we know what it isn't, let's take a look at what Super-16 really buys you. The standard 16mm camera aperture is .295" x .404", yielding an area of .119 in² at an aspect ratio of 1.37:1. When this is blown-up to 35mm wide screen it must be cropped, as in FIGURE 1, yielding areas of .098 in² (1.66) and .088 in² (1.85).

Continued on Page 459

FIGURE III

	Aspect Ratio	Dimensions	Area	% Waste
Regular 16mm	1.37:1	.404 x .295	.119	0
	1.66:1	.404 x .243	.098	18%
	1.85:1	.404 x .218	.088	26%
	Aspect Ratio	**Dimensions**	**Area**	**% GREATER AREA THAN REG. 16mm**
Super-16	1.66:1	.488 x .295	.144	47%
	1.85:1	.488 x .263	.128	46%

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What Director of Photography Richard Norling has always wanted is a lightweight, ultra-silent, rugged, no-nonsense 16mm reflex sound camera that can really take punishment in the field. "If you've seen some of the mob action that developed whenever any Watergate principal appeared at the District Court in Washington, D.C., you know what a godsend the CP-16R was."

Norling, who freelances for the major television networks, complements his CP-16R reflex with two of Angenieux's most outstanding lenses, the 10-150mm zoom lens and the extreme wide-angle 5.9mm prime lens. "Truly an unbeatable combination," says Norling.

"My first use of the 10-150mm lens was on an NBC special on marijuana, *Mary Jane Grows Up.* In one laboratory scene I was able to shoot a fairly wide shot of the room and then, with careful follow-focus, zoom into an extreme close-up of a rat's brain (which is about the size of a small raisin). Normally I would have to move the camera in a lot closer after the wide shot . . . Also, the 10mm end came in handy for filming interviews in some extremely cramped and small offices.

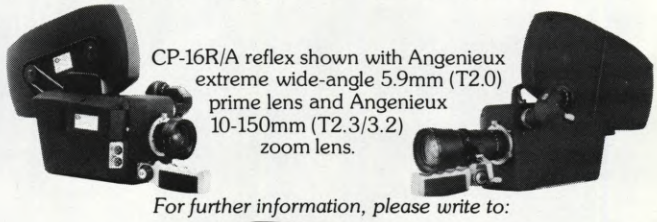
"Filming an NBC *Weekend* show featuring the Dutch Army in training exercises in Holland and on NATO maneuvers in West Germany, I used both lenses to great advantage. The extra push on the other end of the 10-150mm enabled me to do some nice zooms from a helicopter into tanks maneuvering below, which cut into ground shots. I also made good use of my 5.9mm lens to capture dramatic up-angles while filming soldiers jumping and scaling fences on the obstacle course.

"Every time we worked in close proximity, my soundman Dudley Plummer kept murmuring to himself, 'It's amazingly silent.' He never did get over the quietness of the CP-16R reflex."

Can the CP-16R *take it?* — "You bet it can," says Norling.

"Filming in a tank going through an obstacle course is very much like trying to film on a bucking bronco. I was half out of the top hatch, and holding on to the CP-16R by its sturdy handgrip, when the tank plunged into a simulated tank trap. The camera flew right over my head — the sudden jolt almost knocking it out of my hand. I came out all black and blue, but the CP-16R came out just great!"

Isn't it time *you* switched to a CP-16R reflex?



CP-16R/A reflex shown with Angenieux extreme wide-angle 5.9mm (T2.0) prime lens and Angenieux 10-150mm (T2.3/3.2) zoom lens.

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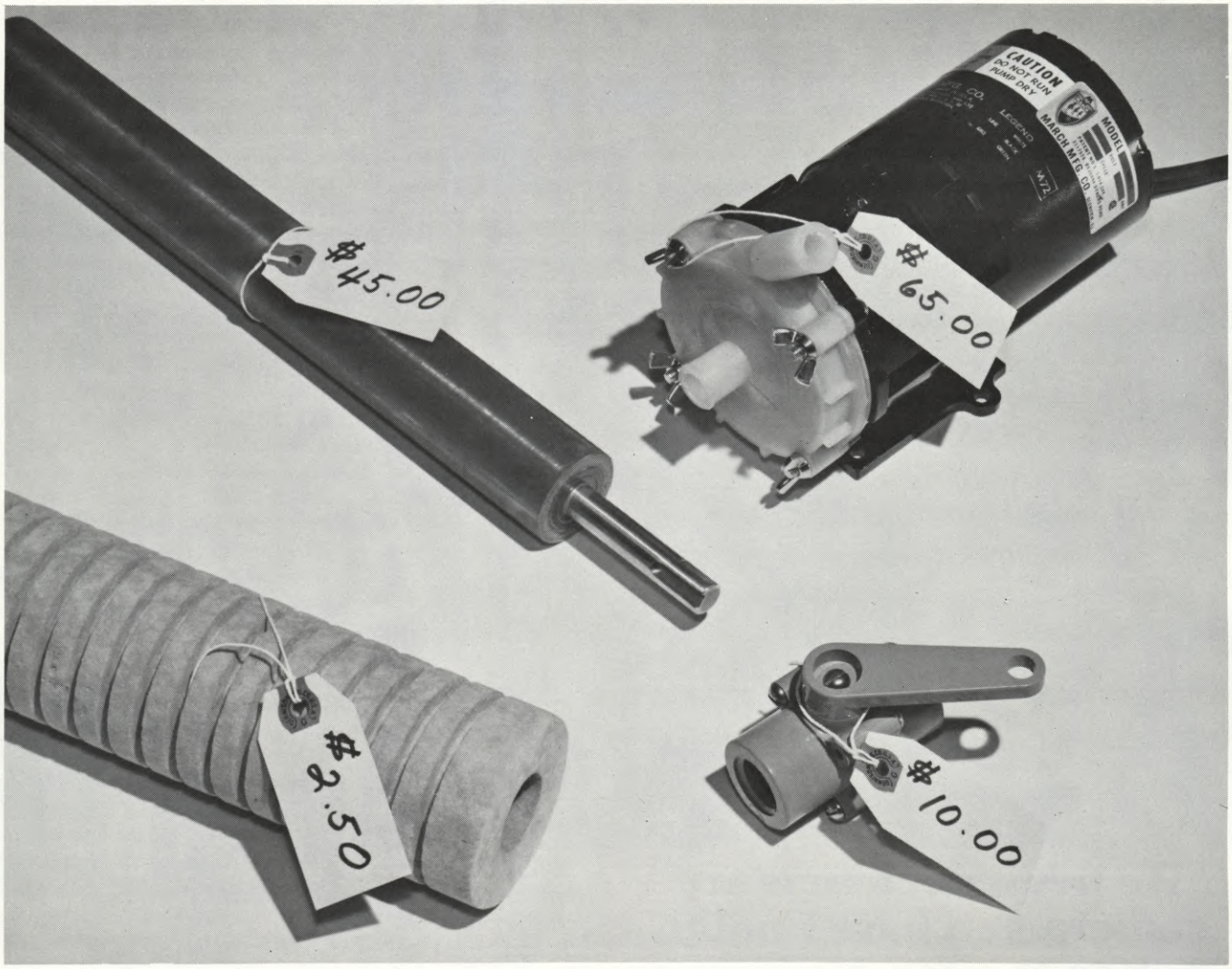

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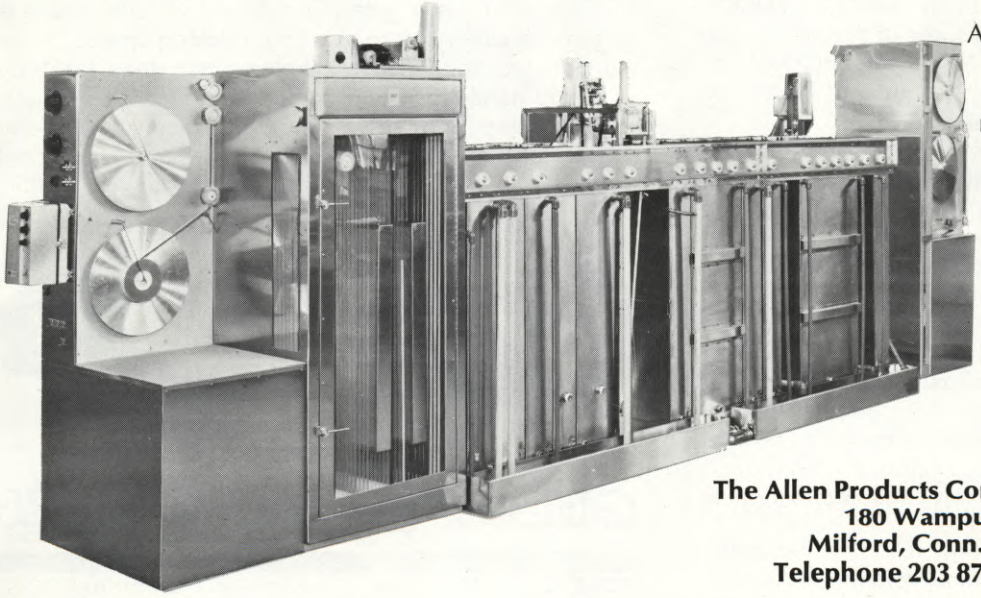

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THE BOOKSHELF

By GEORGE L. GEORGE

CINEMATIC PERSPECTIVES

The 50th anniversary next year of sound-on-film movies brings to light a forgotten pioneer who patented in 1908 a sound-on-film process he conceived in 1896. ELIAS E. RIES, INVENTOR by his daughter Estelle H. Ries is a fascinating biography of a prodigiously gifted researcher. Published in 1951 by Philosophical Library and now out of print, it unquestionably deserves a new edition.

Confessing to "a love affair with the movies," psychiatrist Harvey R. Greenberg, in MOVIES ON MY MIND, sees in films a release from tension and a socially acceptable form of voyeurism. His enlightening and entertaining book defines the subconscious conflicts buried in our psyche that movie therapy helps to articulate and resolve. (Saturday Review Press $10.95/4.95)

The impact of cinema on society is assessed by James Roy McBean in a stimulating text, FILM AND REVOLUTION. Its thesis that art reflects changes in political ideology is buttressed by examples from the films of Godard, Rossellini, Makavejev and Ophuls. (Indiana U. Press $15./4.95)

Trying for a better understanding of 260 too often misused terms and phrases prevalent in film evaluation, James Monaco's succinct STANDARD GLOSSARY FOR FILM CRITICISM offers well-thought-out definitions written in notably clear language and displaying commendable technical proficiency. (N.Y. Zoetrope, 31 E. 12 St., NYC 10003; $2.50)

Forty compilations of film reviews and comments by such critics as Rex Reed, Pauline Kael, Judith Crist, Penelope Gilliatt and James Agee are listed and annonated by Richard Heinzkill in FILM CRITICISM: AN INDEX TO CRITICS' ANTHOLOGIES, a useful guide to the key movie chroniclers of our times. (Scarecrow Press $6.50)

A highly talented and original creator of animation displays his gifts in THE DRAWINGS OF NORMAN McLAREN, a rich assemblage of illustrations notable for their range and the variety of their techniques. (Scribners $25.)

* * *

FASCINATION OF THE FAR-OUT

Movies have always had a marked interest in the fantastic, reflecting an ancient mythological and literary tradition. Recent books have explored this trend, notably THE VAMPIRE FILMS in which Alain Silver and James Ursini provide a useful filmography and bibliography of the cinematic incarnations of this demonic creature. (Barnes $10.)

In THE SEAL OF DRACULA, Barrie Pattison explores movies from many lands that deal with the classical blood-sucking ghouls, with particular emphasis on sex-oriented vampires. (Crown $2.95)

From the mythological Medusa all the way to King Kong and Godzilla, Leonard Wolf's MONSTERS parades a captivating assortment of the terrible and wondrous beasts that have frightened and delighted countless generations of spectators. (Straight Arrow $4.95)

Ministering to the 6- to 9-year-old crowd, Thomas G. Aylesworth describes with casual relish, in MOVIE MONSTERS, assorted denizens of the scary screen and explains some of the techniques guaranteed to give the kiddies bad dreams. (Lippincott $5.95/2.95)

A comprehensive and entertaining history of horror in the mass media, Lee Daniels' LIVING IN FEAR surveys a 2000 year span of tales of terror and their current proliferation in film and TV/radio, as well as in the print media. (Scribners $12.95)

* * *

TALENT AND/OR FAME

A perceptive study of a gifted and unpredictable filmmaker, Gene D. Phillips' STANLEY KUBRICK: A FILM ODYSSEY explores knowledgeably the motivations in the director's practice of conveying, through markedly different movies, his guiding theme that man must remain human if he is to survive in this materialistic, dehumanizing world. (Popular Library $3.95)

Making ample use of a rich family archive, THE FAIRBANKS ALBUM displays unique photographs and other exceptional documents reflecting Hollywood in its years of glory, with an informative narration by Richard Schickel. (Little, Brown, a N.Y. Graphic Society Book $17.50 until 6/30/76, $19.95 thereafter)

German actress Hildegard Knef, who played in a few Hollywood movies of the fifties, details in her autobiographical THE VERDICT the grim account of the 50 surgical operations that wrecked her career but could not break her unconquerable spirit. (Farrar Straus Giroux $10.)

Also a tale of adversity and struggle, A. E. Hotchner's DORIS DAY: HER OWN STORY is an engrossing narrative, told with utmost candor, of what it takes in sheer pluck and never-say-die to reach the top in the often heartless world of entertainment. (Morrow $8.95)

In CAGNEY BY CAGNEY, the actor takes a hard look at his career and comes up with a swift paced, honest and engaging view of his rise from New York's slums to Hollywood stardom. (Doubleday $8.95)

An original and stimulating appraisal by Patrick McGilligan, CAGNEY: THE ACTOR AS AUTEUR explores the performer's personality as it vitally affects the form and impact of his films. (Barnes $12.)

Irving A. Fein's perceptive biography JACK BENNY traces the late comedian's lengthy and versatile record in the lively arts, a warm-hearted tale that catches deftly the character of the performer and the nature of his art. (Putnam $8.95)

A lively narrative, WOODY ALLEN: CLOWN PRINCE OF AMERICAN HUMOR by Bill Adler and Jeffrey Feinman offers many insights into the comedian's personality, his peculiar sense of the comic, and his mixed feelings of achievement. (Pinnacle $1.75)

The first volume of Desi Arnaz's memoirs, disingenuously titled A BOOK, takes us from his youth in Cuba to his divorce from Lucille Ball. He tells it as it was, with unaffected simplicity, questionable English, even more questionable jokes, but with appealing Latin charm. (Morrow $8.95)

Shirley MacLaine, Paul Newman, Mike Nichols, George C. Scott, Dustin Hoffman, Woody Allen, Al Pacino and ten other celebrities of the entertainment world speak their mind in OFF CAMERA, a transcript of probing interviews conducted by former NBC drama critic Leonard Probst which contain much substantial matter interspersed with the usual banalities. (Stein & Day $10.) ■

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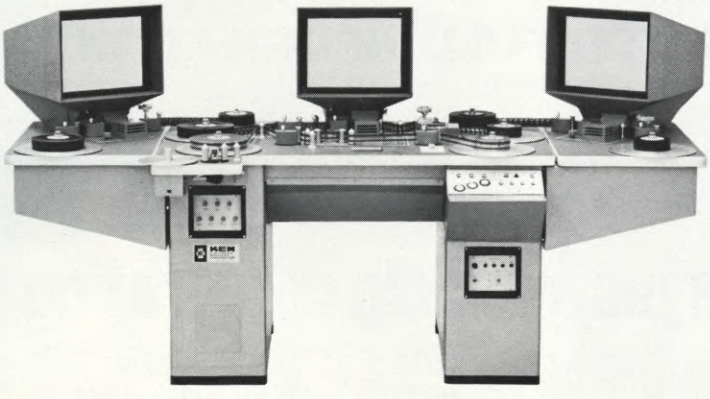

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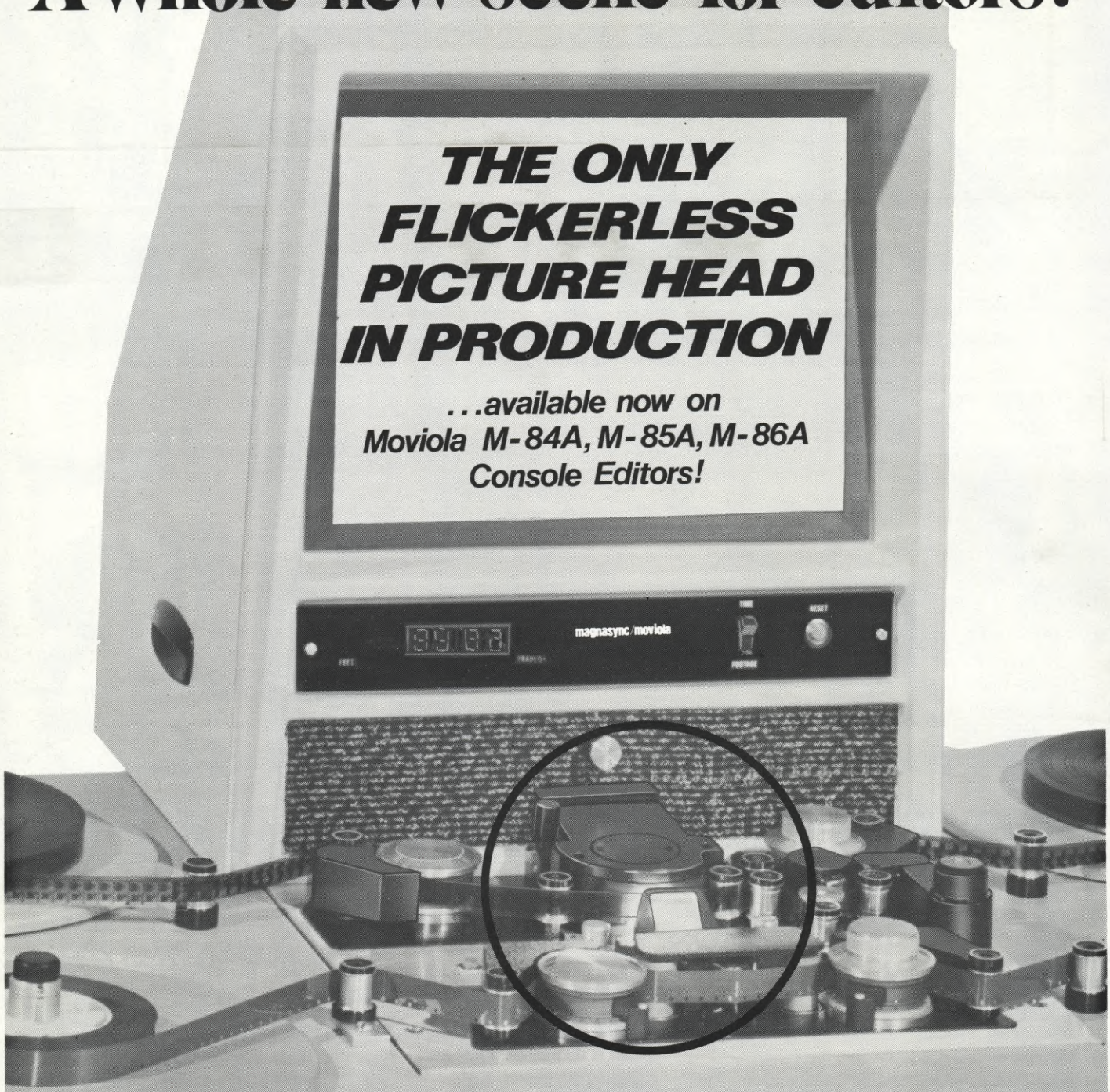

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Only Beaulieu builds Super-8 motion picture cameras to the standards usually associated with professional 16mm cameras like Eclair and ARRI. The price is correspondingly high, about what a professional would expect to pay for professional equipment. Which one of them is the finest? That depends on what *you* need. There are small but significant differences between the two cameras. The new 5008S has both single and double system sound capability. Its single system records high fidelity sound directly on the film. (Frequency response: 50-12,000 Hz ± 1.5 dB at 24 fps; distortion: less than 0.75%; signal to noise ratio: 57dB; wow and flutter, attenuated peak: less than 0.4%.) That should make it a TV news cameraman's dream, weighing in at about six lbs. with lens. If you prefer double system sound, you can plug your Nagra, Stellavox, or Super-8 Sound Recorder into either camera model. The 4008ZMII has double system sound capability and if you don't need single system mode, you can save some money. The 5008S is shown here with f1.2, 6-to-80 Angenieux zoom lens (a 13-to-1 zoom ratio). The 4008ZMII has the Schneider f1.8, 6-to-66 zoom lens. They both have C mounts which will enable you to use many of the lenses you now have for 16 or 35mm. Now that Super-8 has grown up and turned pro, it's worth your while to give it a look. Take the time for a leisurely demonstration at a franchised Beaulieu dealer. Or write to Department AC, Hervic Corporation, 14225 Ventura Boulevard, Sherman Oaks, CA 91423 for information and complete specifications.

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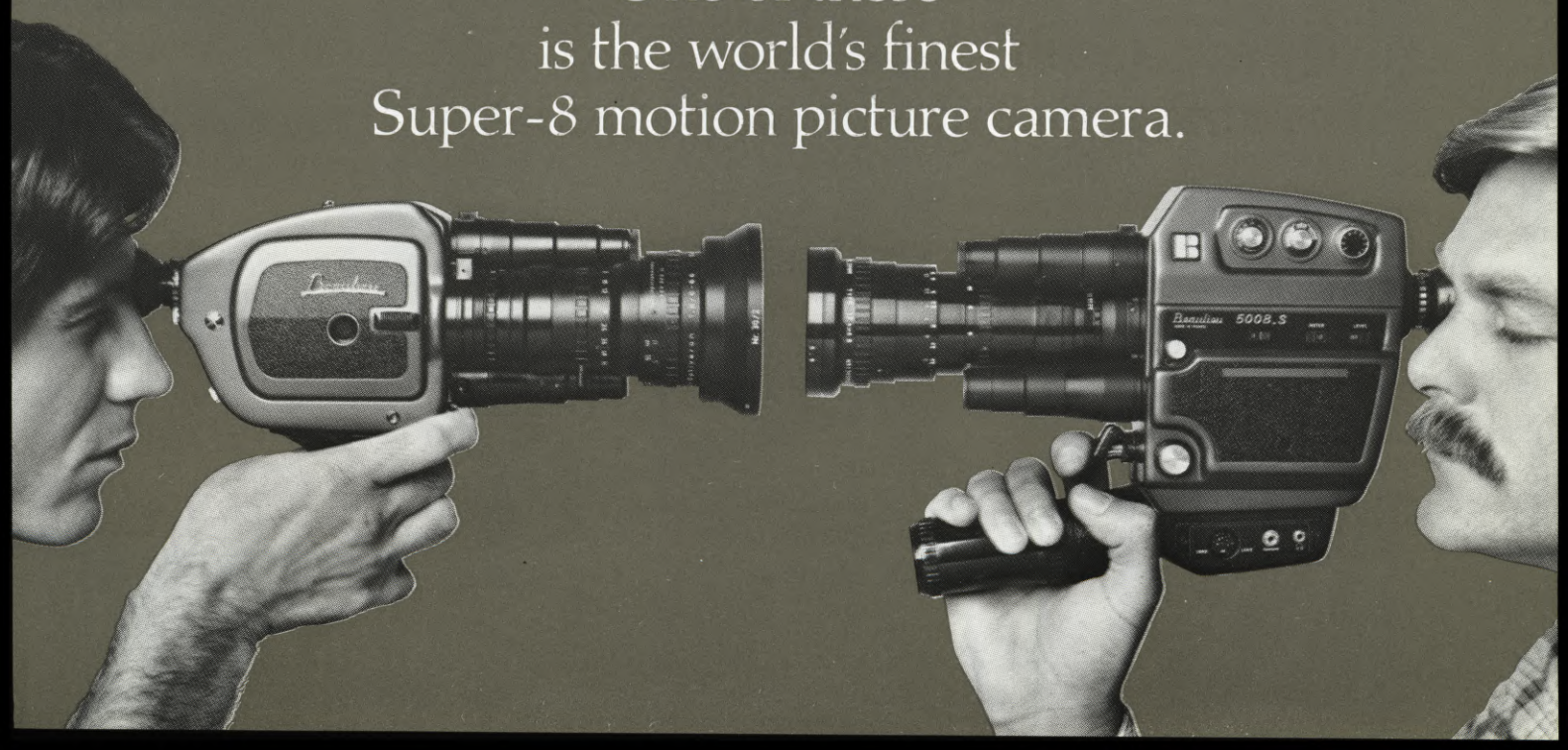

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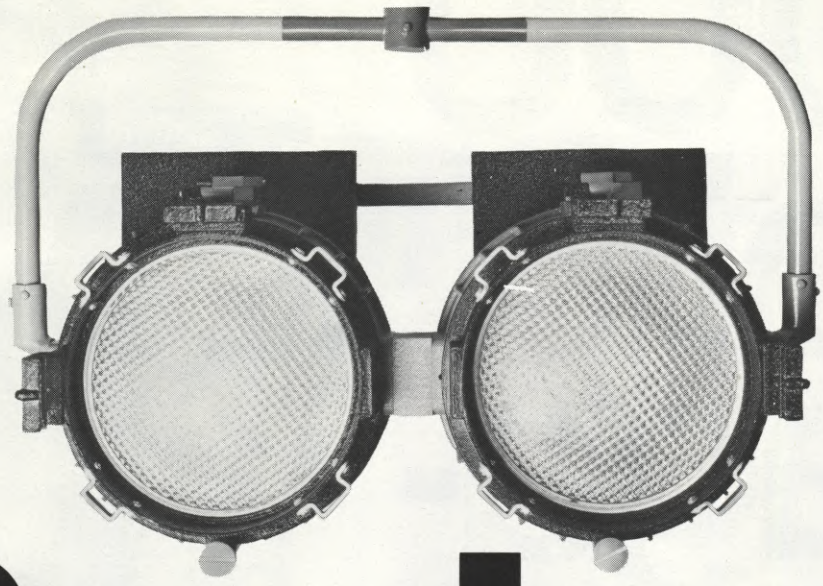

Bye, bye brute.

So long, spot. Ta-ta tener. Farewell,. fay brute. Miss you, maxi.

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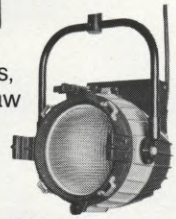

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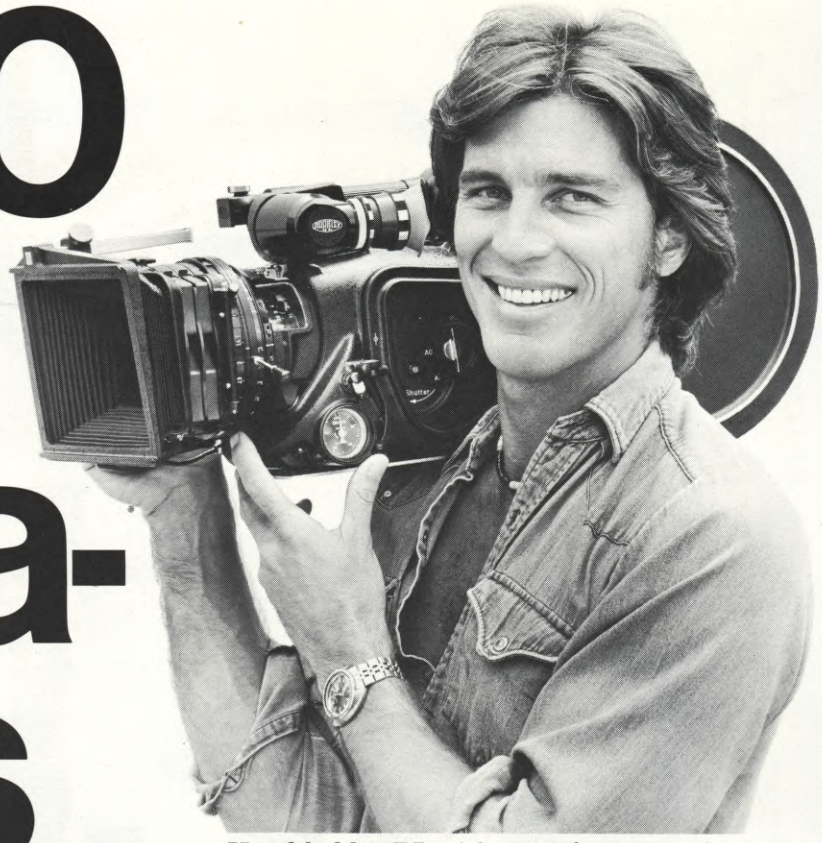

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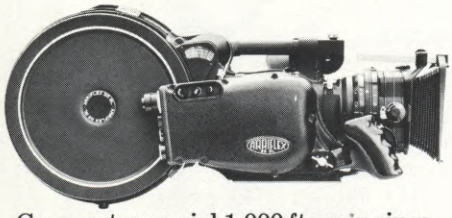
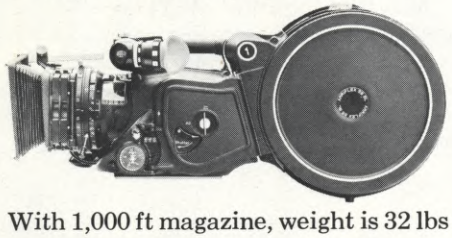
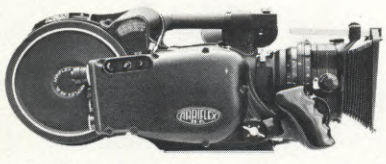


Compact, co-axial 1,000 ft magazines



With 1,000 ft magazine, weight is 32 lbs



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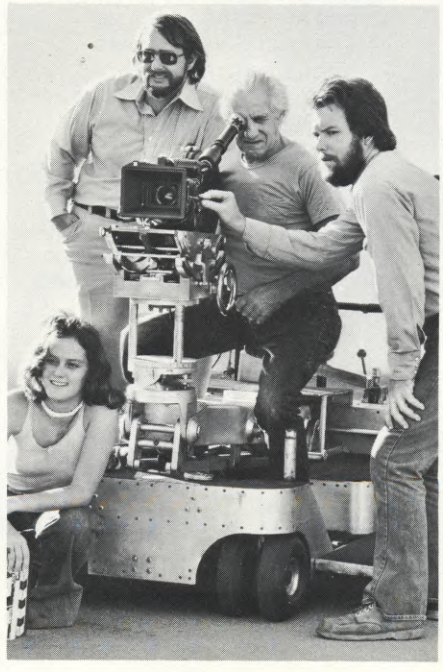

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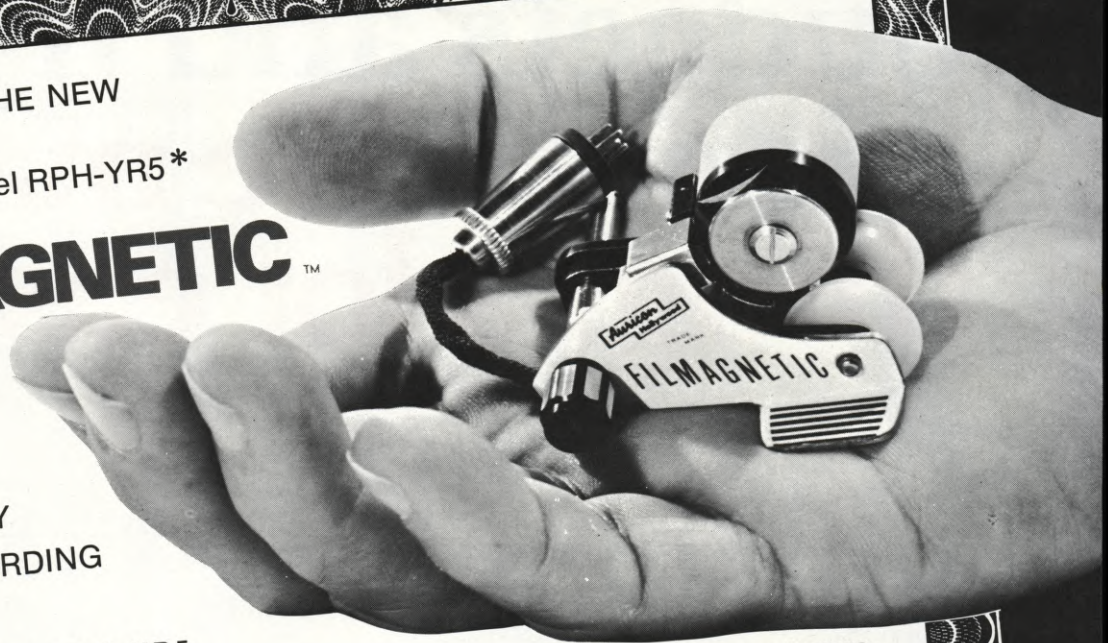

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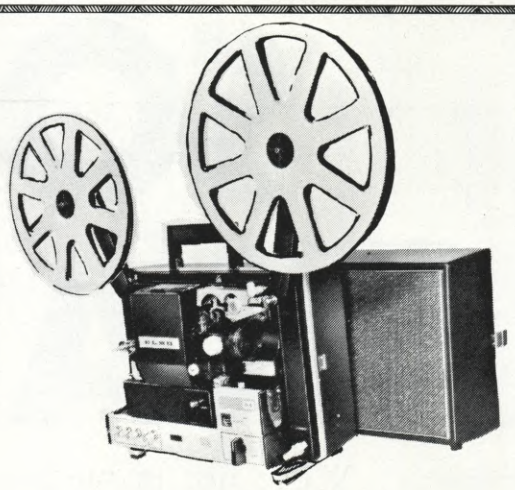

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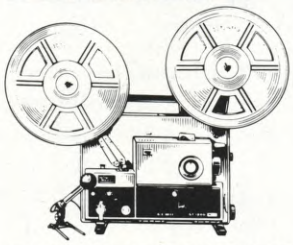

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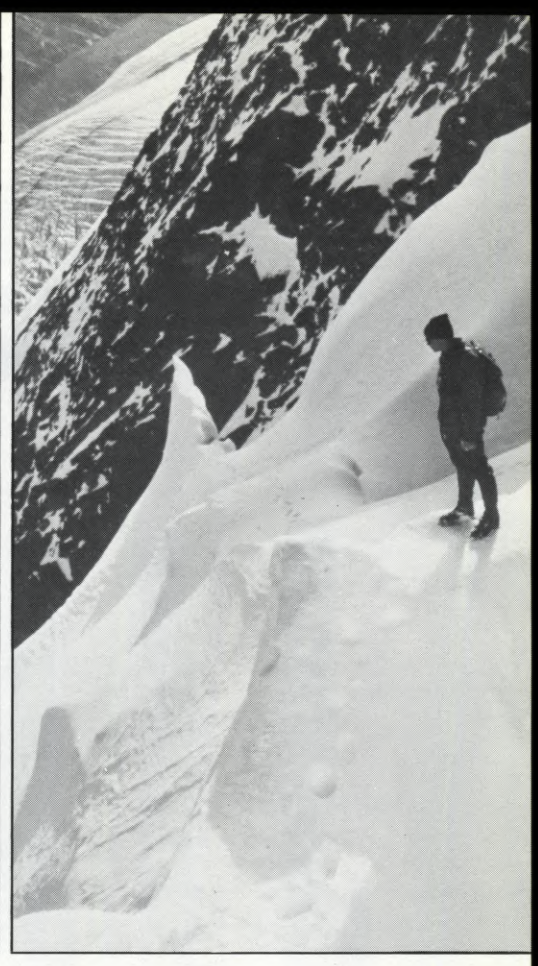

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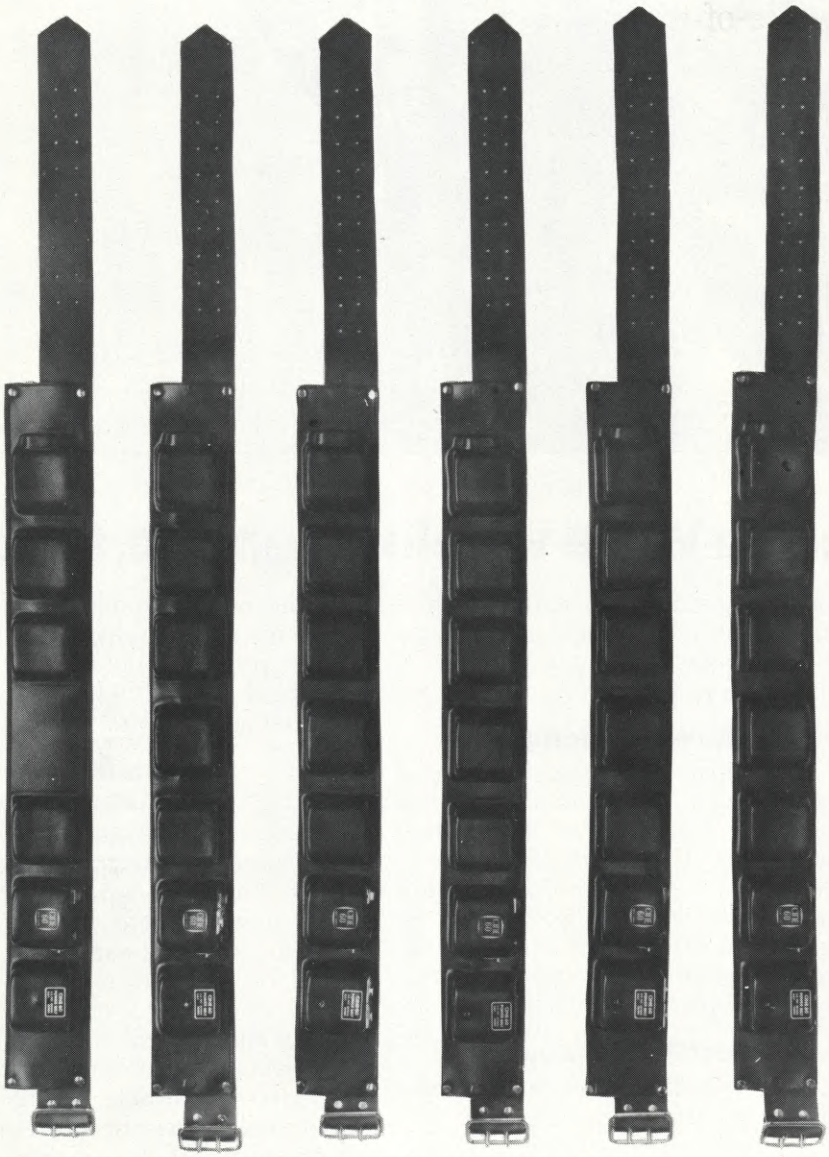

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every step is under one roof.

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Every function—sensitometric, chemical, chromatic, mechanical, electronic and optical—must be fine-tuned to work best with the others. At CFI, there's a department that does nothing but monitor the whole system, *continually.*

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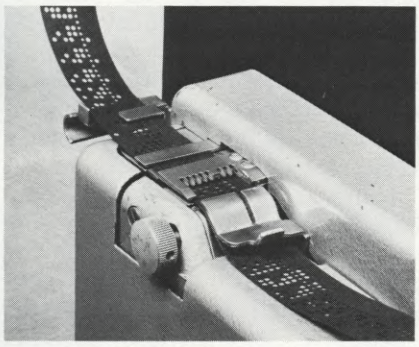
One Light

For example—nine out of ten CFI blowups can be printed one light. For us, that means the system's working smoothly. For you, it means the job's ready sooner.



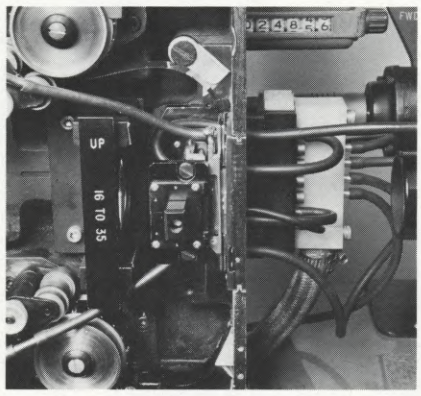
Computer punched tape automatically controls lamphouse timing settings during blowup.

Save Time

Benefit Two: faster service. Because it's all in-house, we can schedule every step whenever we choose—day or night. And our blowup machines are used *only* for blowups (not for titles, etc.). So they're always set up, ready to go.

Liquid Gate

Hiding scratches: some blowup machines coat each frame with liquid just before it enters the gate. That works well, if the abrasions aren't too deep... At CFI, the film is *completely immersed* in a pressurized, glass-enclosed liquid gate.



Rubber tubes pressurize liquid in glass gate. Film is fully immersed during entire exposure.

Programmed

After timing the original on an electronic video analyzer, we make a 16mm first trial, which the timer corrects. A computer tape of his corrected timing is then fed into the blowup printer's program input.

Academy Award

The printer combines a standard additive-head lamphouse with a patented multicellular optical system. For this combination, (plus the liquid gate and programmed timing), the machine won an Academy Award. Here's why:

Subtle Control

This optical system transmits a great deal of light. That lets us take advantage of the additive head's subtlety *(fifty* timing settings for each of the three primary colors). And it lets us use a slow-speed finegrain internegative—and *still* make a 10 minute blowup from A and B rolls in 2½ hours.

More Awards

Three of this year's films nominated for Academy Awards were blown up at CFI. A fictional short subject and two documentary features: *Dawn Flight, California Reich* and *The Incredible Machine.*

Deadline

"The Academy's delivery deadline was Tuesday at 6 PM. We arrived at CFI on *Monday* morning, with 58 minutes of A/B rolls," says Walter Parkes, who co-produced *California Reich* with Keith Critchlow.

Next Day

"At 5:30 PM the next day," says Mr. Parkes, "We picked up a 5,000 foot one-light 35mm print—and that's what the Academy projected!"

One Roof

Irwin Rosten produced *The Incredible Machine.* "I had the blowup made at CFI because they'd done the 16mm work," he says. "The quality is very, very good."

Service

"We came in with a 750 foot workprint and uncut negative," says Lawrence Lansburgh, who produced *Dawn Flight* with Claire Wiles. "But you'd think we were CFI's biggest customer."

Madman

"Everybody was *enthusiastic*," says Mr. Lansburgh. "The timer kept polishing until I couldn't *see* his changes. A real madman. And the blowup print actually looks better than one made from the camera original."

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FILMING THE XII WINTER OLYMPIC GAMES

American Cinematographer Editor, doubling as a cameraman on the Official Film Crew, gives a behind-the-scenes account of what it's like shooting the world's most famous winter sports spectacle

By HERB A. LIGHTMAN

INNSBRUCK, Austria

A spectacular setting, this town of 125,000 people, stretching along the Inn River, backed up by a solid wall of snow-topped mountains. Only the low-hanging layer of brownish smog is out of key. Otherwise, it's picture-postcard all the way.

An air of excitement, expectancy in the town. Something very special about to happen. The streets of downtown Innsbruck decorated with festive lights — like Hollywood Blvd. at Christmas. Everywhere, souvenirs and posters of the XIIth Winter Olympic Games. The Big Show of the Tyrol — of the World, for the next two weeks.

Four, five kilometers out of Innsbruck, in the toy village of Sistrans, big white vehicles and blue-clad figures swarm about two tiny hostelries — the Gasthof Krone, the Gasthof Post, headquarters for the Official Film Crew.

Everywhere I turn it's Old Home Week. Familiar faces from Mexico City (1968) and Munich (1972). Joyous reunions at every hand. We're one big family — we who film the Olympic Games — together again!

Presiding over it all, an unruffled father hen: Michael Samuelson — the Jolly Pink Giant.

Many months before, Michael had phoned me in Hollywood: "Would you like to be part of the filming crew for the Winter Olympics in Innsbruck?"

Would a duck like to go for a swim?

At Munich, I had been commandeered in some sort of terminal desperation to fill in as cameraman on two of the events and — wonder of wonders — my footage had actually ended up in "VISIONS OF EIGHT".

Now I am being asked, far in advance, to pull up a camera and join the elite sports cameramen of the world in filming the greatest sports event in the world. No small honor. I'm deeply touched and flattered.

Time to Suit Up

Weeks before I had been asked to send my measurements — everything from crotch to cranium. Now an Official Film Crew uniform, tailored to those measurements, is waiting for me. A light blue snowsuit (jacket and bib trousers), a Navy knit ski cap and matching sweater (both with the Olympic insignia), gloves, heavy wool socks, goggles and "Moonboots". It all fits — except that, inevitably, the sleeves and cuffs are a wee bit too long. Not to worry. The next morning a little tailor comes 'round and makes everything perfect.

Meanwhile, I am introduced to Tony Maylam who shares Co-producer/Director credit with Michael Samuelson, but is functionally directing the film. Tall, dynamic and very amiable, he is Michael's partner in Worldmark Productions, the entity that is actually producing the film. I learn from Tony that this feature is to be called "WHITE ROCK" and will be different from any other Olympic Games picture ever made in several respects.

First, making a definite pitch for the young audience, it will mainly be structured around an original score by the famed rock group, YES. Some of the sequences will be cut impressionistically to the music and there will be a highly touted sound track album of the score available.

Second, James Coburn is to serve, not merely as narrator, but as a sort of Everyman who acts out his fantasies (and those of the audience) by actually roaring down the bobsled run, playing goalie in a hockey match and taking part in the intricate Biathlon, an exotic combination of cross-country skiing and target shooting.

Coburn, I'm told, has already completed 16 days of work on the film and has left Innsbruck, but the Editor, Gordon Swire, has those sequences in rough-cut form and he projects several of them.

I'm astounded at how Coburn comes across — not at all like a *dilettante* movie star, but very simply like the tough, down-to-earth, try-anything-once character that he really is. Great pains have been taken to prove that his footage has not been faked. For example, all in one shot, he clambers aboard the bobsled and rides it out, all the way to the bottom of the course. You can see his face distort under the force of three G's, as he tries to talk (in

Continued overleaf

The colorful spectacle of the Opening Ceremony of the XII Winter Olympic Games, held at Innsbruck, Austria. The impressive event took place on the site of the 90-Meter Ski Jump at Bergisel Hill, just outside of the city, where upwards of 70,000 avid fans packed the huge natural amphitheatre to see the Olympic torch-bearer kindle the flame of the 1976 Winter Olympic Games. Actually, he kindled two flames, the first in commemoration of the Winter Olympics held in Innsbruck in 1964. Colorfully garbed athletes of the participating nations acted as an Honor Guard.

actual bobsled-recorded sync sound) to describe what is happening to him. It is astounding footage, especially when intercut with point-of-view shots filmed by a camera mounted low on the front of the bobsled.

It is obvious to me, just from seeing these clips, that "WHITE ROCK" will, indeed, be different from any other Olympic Games film ever made. The emphasis is to be placed clearly on capturing the excitement of the events in their every aspect and to avoid the straight documentary coverage that is being provided so efficiently and in such abundance by the video cameras.

The Big Kick-off

The Opening Ceremony of the Olympic Games is always an impressive pageant — the milling throngs, the teams from the various nations marching in dressed in their colorful uniforms, the inevitable release of doves and balloons — all very cinematic. But there are also speeches and a certain amount of stultifying pomp and circumstance — not very cinematic.

Tony Maylam makes the decision, and rightfully so, not to dwell on the detail of the Opening Ceremony, but to simply establish the atmosphere of the event and then zero in on the torch-bearer as he enters the arena, climbs the stairs and lights the Olympic Flame.

Nevertheless, the troops pile out of their billets at Sistrans as if they were sallying forth to shoot "GONE WITH THE WIND". Cameras are loaded and locked, telephoto lenses are at the ready.

The Opening Ceremony is to take place in the amphitheatre of the 90-meter ski jump on Bergisel Hill, practically in the heart of Innsbruck. It is certainly an impressive setting for an Opening Anything.

The weather had started out bright and sunny that morning and I'd had visions of getting a beautiful rich color shot for the cover of *American Cinematographer,* but by late afternoon, when the Opening Ceremony is to take place, the sun is long gone. The diffused light has flattened the mountain behind the torches like a sheet of paper. The whole thing is not very photogenic.

Nevertheless, that doesn't prevent 70,000 shoving, jostling spectators from shoe-horning their way into the arena. The whole place, I'm told, had been sold out as soon as the tickets went on sale — and no one has stayed home. The camera crew that I am with (Arthur Wooster and assistants) is right in the middle of the stands — not up on any platform, but completely surrounded by surging crowds. Arthur can hardly find space to swing his panhandle.

It is, one has to admit, a stunning spectacle. Each nation's team has seemingly tried to outdo the other in the color and originality of its uniform design. The bands, the "flag-dancing" of the local Austrians, the Japanese delegation in their "butterfly" costumes (symbolically passing the Winter Olympics torch from Sapporo to Innsbruck) — all these things add up to a most colorful pageant.

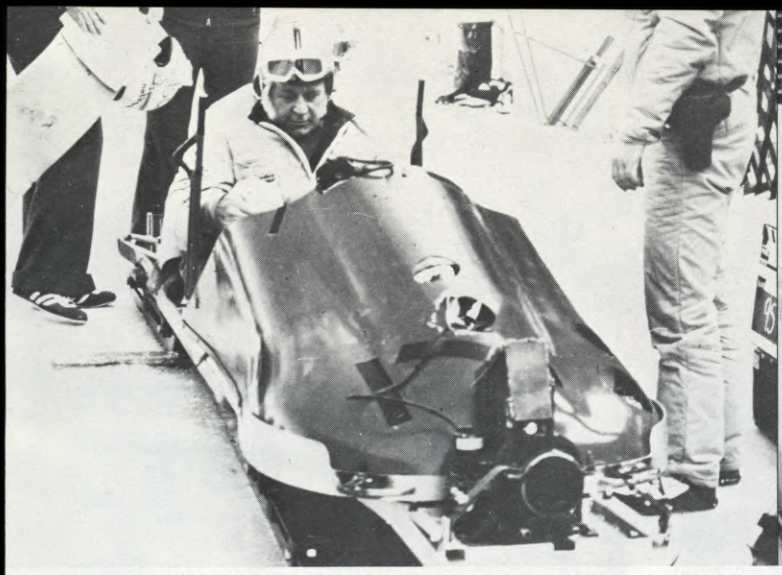
The XIIth Winter Olympic Games are off and running.

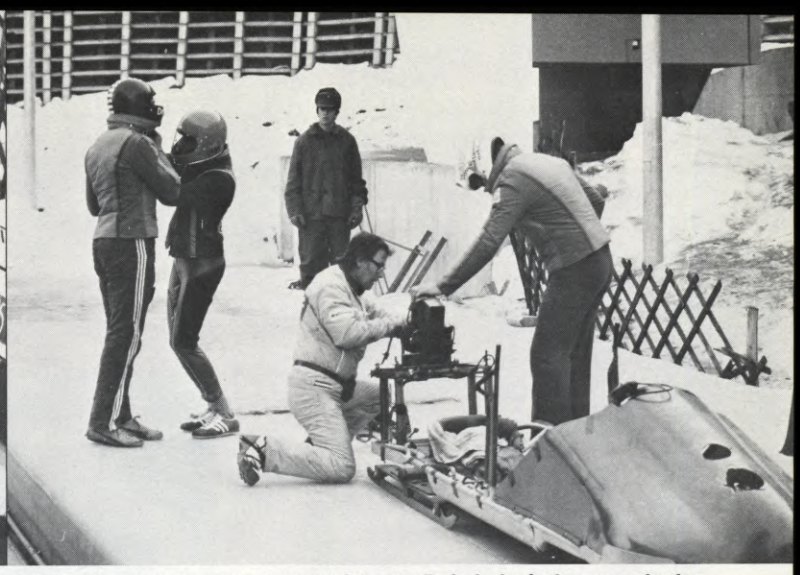
A Panavision Virgin

Arthur Wooster, the Director of Photography on the shoot, had told me that he definitely wanted me to do some filming on the Biathlon event, but that I should also hang in at-the-ready to shoot anything else, wherever needed.

First call on my services comes sooner than expected — on the very first day of competition, as a matter of fact. The Games are to kick off with the

Director of Photography of the Official Film, Arthur Wooster skates with his homemade "lawn mower", actually a rig which he designed himself and which mounts a Panavision-adapted Arriflex on a small platform atop a pair of ice skate blades. Here he skates with Irina Rodnina and Alexander Zaitsev, Russian Gold Medal winners for Figure Skating (Pairs) in order to shoot closeups and effects shots to intercut with scenes shot of their actual award-winning performance. They very kindly consented to devote an extra hour on the ice to filming these scenes.





Spectacular subjective point-of-view scenes were filmed by actually mounting the cameras on 2-man and 4-man Bobsleds during runs. In the first attempt, the incredible vibration and pressure of G-forces literally shook an Arriflex camera to pieces, though the Panavison lens survived to film another day. Mounts from six different vantage points were used. (LEFT) The camera mounted on the front of the Bobsled. (RIGHT) The camera mounted on the rear.

Men's Downhill Skiing — the "biggie", as far as Alpine events go. The Downhill race will take place on Patscherkofel, an icy monolith just outside Innsbruck. Our crews are to be strung out all the way down the course.

The night before, Arthur tells me that Herbie Raditschnig will be covering the action at the starting gate with a handheld Panaflex and he asks me if I will run the second camera. "All I want from you," explains Tony Maylam, "is a tight closeup of the first 30 contestants as they stand in the starting gate and then push off down the run."

Sounds simple enough, but what I don't know at the time is that the contestants don't simply *stand* in the gate prior to pushing off; they bounce up and down to the count of "One! . . . Two! . . . Three! . . . Go! . . ." — a circumstance hardly conducive to keeping them framed in a tight closeup.

Nevertheless, I'm keen to have my first go at shooting Panavision anamorphic — the Big Time. It's not all that different, of course, but a first is a first.

We ride up to the top of Patscherkofel on the *teleferique,* and it's blowing like Wuthering Heights up there — winds of at least 50 miles per hour. Ken Dyer, the assistant cameraman, very kindly offers to get my camera all set up for me in advance. "No sense in your freezing your thing off until we're ready to shoot," he tells me, with pristine logic.

When the event is about to start I make my way out to where Tony Maylam, Herbie and Ken are set up. I take one look at where my camera has been set and nearly have a heart attack. The legs of the tripod have been rammed into the side of a sheer ice cliff directly below the starting gate for the Downhill. Beyond that point there's nothing but infinite Downhill.

"Isn't it a super camera angle?" enthuses Tony.

"Super, indeed," I agree, "But where am I supposed to stand?"

"Nothing to it, Old Boy, we'll hack a couple of footholds out of the ice."

No sooner said than done.

As I stand there with my tippy-toes dug in, clinging to the ice cliff like some kind of human fly, it strikes me that one false move — one belch, even — and I'll end up hurtling down the entire Downhill course — without benefit of skis.

But it's Ken Dyer who falls, not me. I hear a little strangled scream and look just in time to see him sliding down the sheer face of the cliff. I watch incredulously as, on the way down, he neatly scoops up the lens cap of a 1000mm lens someone has dropped. Now, that's *savoir faire!*

I'm sure he's a goner, but hanging on by finger and toenails, he manages to halt his descent just before roaring into the gully of the Downhill run. He somehow pulls himself to safety, but the whole spectacle has done little for my sense of security.

By that time, however, I'm concerned about such things as focus and exposure and how to hold these guys in a tight closeup as they bounce around to the countdown. I'm about 12 feet from the skiers, racked out to 300mm on the 50-to-500mm zoom. I don't really know how I manage it, especially standing on air half the time, but when I see the dailies later, the stuff looks amazingly good.

The Downhill proves to be a most exciting event, and when their local boy, Franz Klammer, wins the Gold Medal, the Austrians go out of their minds with joy. There is dancing in the streets of Innsbruck, much slapping of *lederhosen,* flicking of *dirndls,* and even a bit of yodeling.

Larger Than Life

I watch an incredible cut sequence in

Continued on Page 434

PRODUCTION STAFF OF "WHITE ROCK" — OFFICIAL FILM OF THE XII WINTER OLYMPIC GAMES, INNSBRUCK 1976

PRODUCER: MICHAEL SAMUELSON
DIRECTOR: TONY MAYLAM
ASSOCIATE PRODUCER: DRUMMOND CHALLIS
PRODUCTION MANAGER: TERRY GOULD
PRODUCTION ASSISTANT: JULIA ROBINSON
LOCAL PRODUCTION ASSISTANT: MONICA RIZ
EDITOR: GORDON SWIRE

CAMERAMEN: ARTHUR WOOSTER (DIRECTOR OF PHOTOGRAPHY), CHRISTOPHER CHALLIS, JOHN PALMER, DAVID SAMUELSON, RON COLLINS, TONY COGGANS, ATZE GLANERT, HERBERT RADITSCHNIG, MICHAEL SAMUELSON, HERB A. LIGHTMAN, PETER JAMES

CAMERA ASSISTANTS: MIKE EVANS, TONY STRACHAN, DAVID BUDD, PAUL SAMUELSON, STEVE BARRON, MIKE SHACKLETON, ALAN ANNAND, KEN DYER, PAUL HENNESSY, JOHN COE, SHAUN O'DELL

SOUND: COLIN CHARLES, CLIVE WINTER, PETER DESBOIS

COMPANY DRIVER: JOHN PAYNE

A PRODUCER'S VIEW OF THE 1976 WINTER OLYMPICS SHOOT

After filming of the Mexico City and Munich Summer Olympics, plus several World Cup matches, the Winter Olympics at Innsbruck was a relatively small operation, but in certain ways more challenging

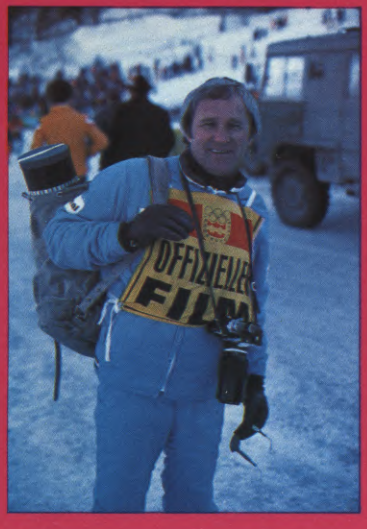
By MICHAEL SAMUELSON
Producer

At the time that Denver pulled out of the Winter Olympics and the Games were awarded to Innsbruck — that was almost four years ago — I was obviously very pleased, because that put the Games into my sort of territory. I went to see Dr. Karl Heinz Klee, Secretary-General of the Innsbruck Organizing Committee and asked what the situation would be in regard to filming the event. I suppose it was about six trips later that they agreed I could have the rights, provided that I could find a sponsor to finance the production. Fortunately, the Shueisha Publishing Company of Japan came forward, and here we are today making the film.

It really was, I think, quite a brave thing on the part of the Organizing Committee, because there were a lot of Austrian companies that would have liked to make the film — and I'm sure they would have made a good film — but I like to think that the Organizing Committee was hoping to get something a bit special.

In approaching the filming of the Olympic Games these days, I think one has to look at television, which is now

Before Innsbruck, Michael Samuelson supervised the filming of the Mexico City and Munich Olympic Games (both huge operations), as well as several World Cup events. Such a background qualifies him as the world's foremost authority on the filming of largescale sports spectacles. "WHITE ROCK" marks his first time out as a Producer and he enjoyed being the "boss", an incredible degree of responsibility from which a lesser man might turn.

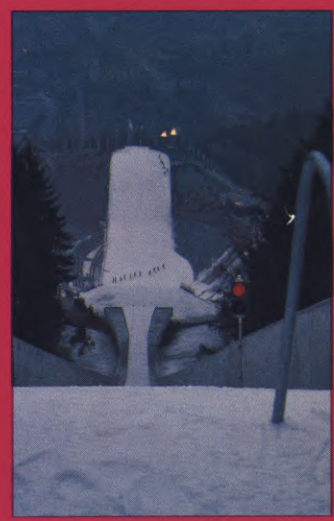


(LEFT) The most expensive "grip" in the film industry, Director Norman Jewison ("FIDDLER ON THE ROOF", JESUS CHRIST SUPERSTAR", "ROLLERBALL") cheerfully hauls a 1000mm lens up the mountain for the camera crew. (CENTER) The Gasthof Krone in the village of Sistrans, headquarters for the Olympic Games shoot. (RIGHT) The "Grand Ballroom" of the Gasthof Krone, scene of the monthly Fireman's Ball, was taken over to house the vast amount of Panavision equipment.

(LEFT) Behind the Panaflex, veteran feature operator John Palmer prepares to film the demanding action of the Figure Skating (Pairs) Finals. (CENTER) Snugly ensconced in a nest of tulips, David Samuelson readies his camera to shoot a high angle of the skating action. (RIGHT) Camera crews, strung out along a wide-ranging course, had their hands full following the frantic action of the Biathlon, a curious combination of cross-country skiing and target shooting.

(LEFT) A signboard in the ice skating stadium proclaims in German that the arena is lighted by means of banks of 2000-watt metal Halogen discharge lamps having a color temperature of 5500°K. Frame rates had to be carefully regulated to avoid flicker. (CENTER) Ron Collins, with Paul Samuelson as assistant, operates the 2000mm Panavision lens sent over specially to film the Games. Collins, a veteran of Mexico City and Munich, is a top long-lens specialist. (RIGHT) The 2000mm Panavision lens includes a bellows.

(LEFT) The young American figure skating pair, Tai Babilonia and Randy Gardner, though winning no medals, gave such a spectacular performance that they were asked to appear in a special "dream sequence" for the film. Here they practice leaps on an outdoor rink. (CENTER) The Russian skaters, Rodnina and Zaitsev, receive their Gold Medals at Awards Ceremony. (RIGHT) The view from the top of the 90-Meter Ski Jump shows the Olympic flames and Innsbruck in background.



so good, and ask: "What can we do that they can't?" Frankly, there's very little, and it's terribly important that we don't produce just another television show. We can't do it as well as they do it because we don't have the money that they have, for one thing. Also, they have five or six hours a day of screen time, whereas we have a total of 90 minutes to cover 15 days. The result is that we have to be very selective and we have to work out ways and means of doing it in such a way as to make it different from television.

David Wolper's film of the 1972 Summer Olympics in Munich ("VISIONS OF EIGHT") was certainly very different from television, but I felt that it was not a box office success because there was very little about the sports in any of the sequences — and we must remember that we are making a sports film. The 1968 Olympic Games film shot in Mexico City was too much like television cut down to size. They tried to put 20 sports into one two-hour film and it was just too much. The photography in that picture was brilliant and everybody did a marvelous job, but the film had not that much to offer that television had not already shown. So, in our film, we have attempted to show the sports in a way that the public hasn't already seen.

I think you have to look at your audience and ask: "What sort of film would

Continued on Page 468

The patch of the Official Film Team, so proudly worn on the blue uniforms of the crew. Whereas at Mexico City there were 72 camera crews and 50 at Munich, there were only 12 crews involved in the filming at Innsbruck, so they were an elite group indeed. Having fewer crews meant everyone had to work harder, which they all did with unfailing good humor.

"WHITE ROCK"—A DIFFERENT KIND OF OLYMPIC GAMES FILM

A calculated determination to make an Olympic Games film totally unlike any made in the past, and one that will have an intense emotional appeal, primarily to a young audience

By TONY MAYLAM
Director

"WHITE ROCK" came about because Michael Samuelson and I had worked on some projects together and when he was given the option to make the 1976 Winter Olympics film, he asked if I would be interested in working on it, and, of course, I immediately was.

Through some contacts of mine we got in touch with Dentsu Advertising Ltd. and it sort of progressed from there. Over a period of time we got the money for it and then it was a matter of deciding *how* we were going to do it.

Michael and I had seen all the other Olympics films and only two, in our opinion, had worked. One was the Ichikawa film of 1964 which, I think, worked on a sort of technical level. It got inside sports like films hadn't before. The other one was Leni Riefenstahl's film of the 1936 Games which, I feel, worked on several levels, and which I think was ahead of its time.

Obviously, one didn't want to make the same kind of film as those. Also, we didn't have the sort of money that other Olympics films had cost. The Mexico City film was sort of financed by the Mexican government, and the Lelouch film of 1968 was largely financed by the French government. They both had an awful lot of money to spend.

But also, once you have a government behind you, you're obligated, to some extent, to make a certain *kind* of Olympics film. You have to show hours of opening Ceremony and hours of Closing Ceremony and all that sort of stuff, which I think is totally against a commercial film. I mean, audiences pay their money to go to the cinema to be entertained.

So we decided to treat the subject of the Winter Olympics, not as a documentary, but as a feature film. We came up with the concept of dealing with just six events — with each having its own theme and being representative of a particular sport. For example, among the Alpine sports, we've really gone all-out for the Men's Downhill — which is the glamorous, prestigious event — rather than including the Ladies' Downhill, the Men's Slalom or the Men's Giant Slalom, events which the average viewer knows nothing about.

We felt it would be better to choose a relative few of the representative sports of the Winter Olympics and do them really well, as opposed to spreading our coverage. As a result, we've chosen the Men's Downhill, the 90-meter Jump, the Biathlon Relay, Ice Hockey, Figure Skating Pairs and Bobsledding. We've also given each of them a theme. For example, the Men's Downhill, *speed;* the 90-meter Jump, *courage;* the Biathlon Relay (which is cross-country), *endurance;* Ice Hockey, *aggression;* Figure Skating Pairs, *artistry in sport;* and Bobsledding, *bullet force.*

With the James Coburn involvement we have given our audience a way to experience what it feels like to do these things. Like in the Bobsledding sequence, I think we come as close as is humanly possible to letting the average non-enthusiast find out what it's like to go down the run on a 4-man Bob, a 2-man Bob and the Luge — as seen through James Coburn's eyes. If we had shown it through the eyes of the four men on the team we wouldn't have gotten the same feedback. They are professionals; they are the ultimate competitors; they don't experience fear; all they're concerned about is tenths of a second.

But James Coburn is more than just a professional actor who can learn lines. He's given us much better feedback than we would have gotten from an ordinary TV reporter, for example. He's been able to express in words what it's like to experience these things. We're very lucky, too, in that he *wanted* to experience them. He had no fear of going down the Bobsled run, so we were able to work with camera and sound rigs that would enable him to literally talk as he goes down the run. Through James Coburn's eyes, the audience will be able to get an idea of what Olympic athletes actually experience.

In our coverage of the various events — and "coverage" is really not the right word to use — we will try to extract the essence of each sport. For example, in the Men's Downhill we may show Franz Klammer making his Gold Medal run, and right next to him, competitor #80, the slowest — and it will become very obvious why Klammer won the Gold Medal. The quality and depth of the Panavision format afford us great leeway in treatment. We can use split-screen very effectively, for example.

Then, too, each event in the film will be accompanied by a musical interpretation from YES, one of the top recording bands in the world. They create very sophisticated popular music and they are all consummate musicians. Each member of the band is being given one of the events to interpret. For example, Patric Moraz will do the Downhill. "Speed" will be his theme and he will build up his music around that theme. We've had cameramen on the Bobsled run and the Jump every day just shooting scenes to go with the music — quite apart from any other coverage. In some sequences they will play music that is totally against the dominant theme of the sport. For example, in the Ice Hockey sequence, with its theme of "aggression", they may play music that's not aggressive at all. It will either be a total disaster or very exciting — and I think it will be exciting.

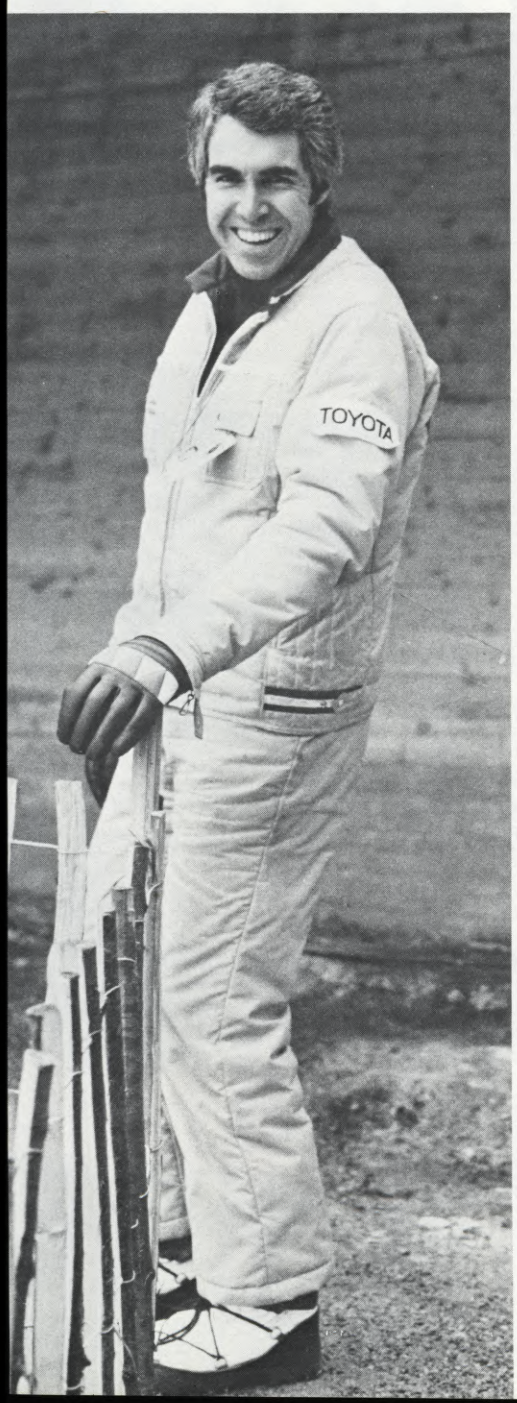
I did my first concept of the script back in January 1975 and have developed it over the ensuing period of time. We've stuck very close to what we originally envisioned, but things have developed beyond that along the way, and we've worked them in when appropriate. James Coburn has been able to spend a lot of time with me working on the script, and that has proved very valuable. You can write for somebody like Coburn, but ultimately, if it's to be a success, you need his involvement. He's been fantastic in that respect. He's spent a colossal amount of time working with me on how to put the ideas across. We've been very fortunate in having him for three weeks, because we were getting only two minutes of film a day in the can, which is not as well as you do on a feature really.

As far as the visual approach to "WHITE ROCK" is concerned, I've adopted the premise of "attacking" everything. In other words, on something like this it's quite easy to get a very average result. But it's very difficult, I think, to get outstanding results — something that is truly unique and new. All of the sports in the Winter

Olympics have a danger aspect — and they can be dangerous to shoot, too.

For example, on our first day of filming on the Bobsled run, we set up a Bob rig with a hard-front Arri carrying a 30mm Panavision lens. We had gone about a third of the way down the Bob run when all the nuts and bolts of the camera were completely shaken loose. The base plate was still there, but the camera had vibrated completely off the mount and we lost the camera. After that lesson, we realized that we had to do a lot of rethinking on how to get those mounts to work, and we literally had to encase everything. Every single nut and bolt had to be wired. But all the way through I've tried to get everyone to go for the ultimate shot and forget about playing it safe. We've had to *attack,* attack all the time, in order to get James Coburn to accept having a camera mounted literally three feet in front of him on the Bobsled and to talk while going down the run. That's what I mean by *attacking,* but you've got to convince all the people who are responsible for the Bob, the crew, James Coburn, everybody that we have to do it because it's the only way we're going to get that ultimate shot — and we've had to do it that way all down the line.

Dynamic young Director and author of the "WHITE ROCK" script, Tony Maylam. His dictum to the crew: "Go for broke! Go for the ultimate shot!"



Out on the Bobsled run two days ago I found out that the Organizing Committee had a ruling that said that the camera had to be at least one meter from the edge of the Bob run. Well, the difference between that shot and having the camera three inches from where a Bob goes by is like night and day. It's a completely different effect. One just had to wait for the police to turn their backs and jump in and get those shots. By now everyone on the crew is motivated toward *attacking,* getting those ultimate shots. On Panavision I think it's going to look sensational.

That's how we're really going to make this picture visually different, by attacking. It's like motor racing; it's like any other speed or dangerous sport. The good shots are dangerous to get. They're different, and you've got to get the camera as near as possible to the action. The ultimate has to be a POV shot on a speed thing. That's really getting inside of it, but after that the passing shots have to be as close to the action as possible, using long lenses where you can't get that close, in order to get the feeling of isolating the action.

People often say that with long lenses the action goes on forever, but one thing I find that it does for me as a director — particularly on sports films — is that it enables me to use sound much more effectively. In a sports or action film where there is harsh sound, the sound is 50 percent of the effect. If you can bring up the sound, when it's an interesting sound — like that of a ski going 90 miles an hour down a slope — it's an incredibly aggressive sound. If you've got a shot that fills the Panavision frame and it only lasts a second, but is a dramatic, hard, close shot, that sound can set up the next shot — the next four shots. Whereas, if you have everything sort of in medium shots — nice, pretty pictures — it is very difficult to bring in exciting sounds, because they're not believable if they're hard and heavy. So I tell a cameraman that if a shot lasts less than a second — and it's a sensational shot on a speed sport — get it, because that can be invaluable — far more valuable than a panning shot, which I hate on speed sports because you can never get close enough. You might as well have it coming into frame and going out of frame. It's much more effective and you can do something with sound. It's a matter of using fixed lenses, but trying to get into the right positions, close to the action. I think the results come from that.

Ultimately, of course, such filming is terribly experimental, because you can't stand behind every camera. That's why, to me, directing the Coburn shoot was much more exciting than directing the sports, because one could control it. Every filmmaker wants ultimately to be able to control what he is going to get. To a large extent, when you've got 10 or 15 cameras on a Downhill race — even though you're in radio contact with every one of them, and although you've gone over every position with them and shown them precisely what is wanted — you can't control it. The guy behind the viewfinder is the one who presses the button and ultimately gets the shot. That's very frustrating, and that's why it's crucial to choose the right guys.

The ones we have on this shoot wouldn't be here unless we thought they were the right sort of people to do the job. It's very hard to find a cameraman who can stay with the action on the Downhill or the Slalom where you don't know precisely where an athlete is going to go. The first 15 guys coming down the Downhill will all take totally different lines of action. If you're shooting them with a 1000mm or 2000mm lens and the depth of field changes from head to chest and you don't know where he's going — well, that requires one hell of an operator. That's the kind of guys we've got on this film.

So far, on most of the speed sports, we've been getting just the sort of thing we want, and even more than I hoped for in some cases. But the ice stadium, in my opinion, is proving disastrous. The lighting is flat and the positions are all too high to do justice to the Figure Skating and the Ice Hockey, the two events we must film in there. With Figure Skating we will survive, because we were very fortunate in getting the winning pair back onto the ice where we could shoot a lot of subjective film on them — although I hate doing that on a sports film. We will intercut high-speed stuff and special rig stuff shot literally from the ice. It's the only way one can make the thing come alive, because the lighting is so flat and the basic positions are so dead.

Although Rodnina and Zaitsev, the

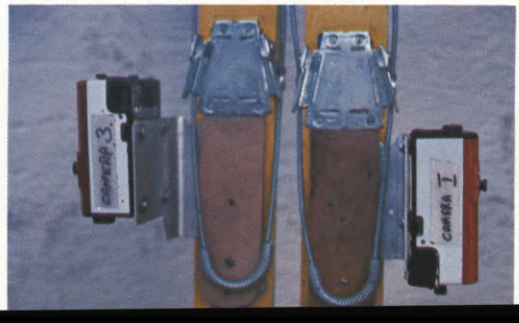
Continued on Page 417

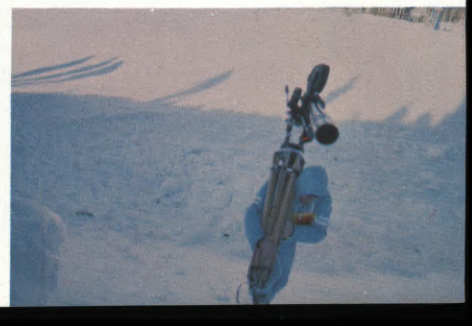
The four-man Bobsled event on the new $5 million artifically refrigerated run at Innsbruck is photogenic, but difficult to photograph with visual impact. In order to get really exciting angles, it was necessary to position the film cameras literally inches from the thundering sleds, a dangerous maneuver officially frowned upon by authorities. However, the dauntless film crews managed to get these angles at practice sessions.

Located about 15 miles from Innsbruck, the resort area of Seefeld is one of those magnificently visual "picture postcard" locales. It served as the site for the Cross-country and Biathlon events. It also became an incredibly picturesque substitute location for the filming of a dream sequence with young American skaters, after snowplows fell through ice of the lake originally selected.

Herbie Raditschnig adjusts the Arriflex camera on the special mount with which he skis down the steepest slopes for filming purposes. The camera can be mounted in the front, in the rear or on the side. Raditschnig developed the rig about eight years ago and has used it for shooting innumerable commercials and travel films. For the Olympics film, he followed Austrian champion Karl Schranz down the Downhill run with it.

(LEFT) A pair of jumping skis with GZAP (gun) cameras mounted at the ankles. (CENTER) A close shot of the GZAP cameras mounted on the jumping skis, one pointing forward, the other backward. A young Austrian jumper was persuaded to make the jump with the cameras running and recorded some spectacular footage, but said he would not repeat the jump because "it's too dangerous." (RIGHT) The indefatigable "Herbie" digs in his toes and walks straight up an icy slope carrying camera and tripod.





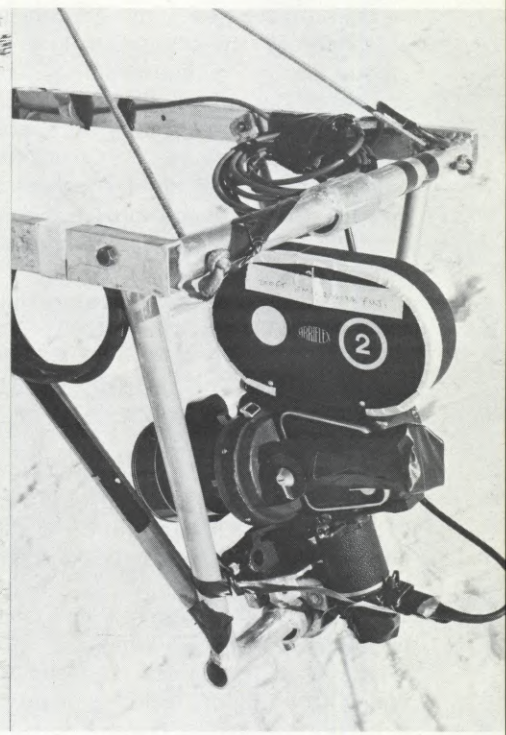
COMMENTS BY 1976 WINTER OLYMPICS FILM-MAKERS

OF CAMERAS, MOUNTS AND RIGS

By ARTHUR WOOSTER
Director of Photography

I came over to Innsbruck at the end of the Olympic Trials last year just to look around and see what the shooting possibilities were. I went around the courses with various people and gave special attention to the Biathlon. I wanted to find out exactly how that event worked, because the Biathlon is very complicated and nobody seemed to know just what the contestants did. Even the officials didn't seem very sharp. It was very difficult to find out what really happened in that event.

While I had been involved in the shooting of the Summer Olympic Games at Mexico City and Munich, shooting in the winter is always a bigger problem — mostly from the standpoint of getting the equipment into position. We are also shooting in Panavision anamorphic, and while the Panavision gear has been very good and has given us absolutely no problems, the lenses are bigger and heavier. Then, too, you somehow feel that you want to be a little more careful with it. You don't really feel that you want to pack Panavision equipment in rucksacks, but we've actually had to carry the equipment in rucksacks practically all the time in order to get it into the camera positions. The boys have looked after the equipment with great care and I think that it's stood up incredibly well to this sort of treatment. We've broken quite a few things — which is inevitable — but we're getting near the end of the Games and still managing to shoot. At any rate, our one really big constant problem has been getting the heavy gear into position to shoot.



Herbert Raditschnig, shown here with his ingenious skiing rig that stood him in good stead during the filming of the Innsbruck Olympics, was acknowledged by all as a most valuable member of the crew, not only because of his prowess as a cameraman, mountaineer and skier, but because, being a native Austrian, he could deal with local officials, cut through red-tape and procure whatever was necessary in short order. Add to this the fact that he's a most pleasant bloke to work with.

The Panavision anamorphic format has been working out very nicely. We were a bit worried about it to start with, but it's perfect for the event, absolutely perfect. We've had no problems with it at all and it's a lovely format to frame up on. I'd like to shoot it all the time; it spoils you for the other formats.

Panavision sent over a 2000mm lens from Los Angeles especially for filming the Games and it has proved very useful. It's been used mainly by Ron Collins. We stuck him on the end of it and he's pretty well stayed ever since and he's got some extremely nice stuff with it.

We've used the Panaflex a lot and it's been fabulous. It's a lovely camera to use. There are so many features on it that are ideal for this sort of work. The eyepiece that swivels around into any position is especially valuable. For Figure Skating and Ice Hockey it's so nice to be able to put the camera right down on the deck and still be able to stand and look through the eyepiece.

When we first came to Innsbruck, we shot with the Panaflex in extremely cold weather — something like 20 degrees below zero — and the heaters inside the camera gave us no problem at all.

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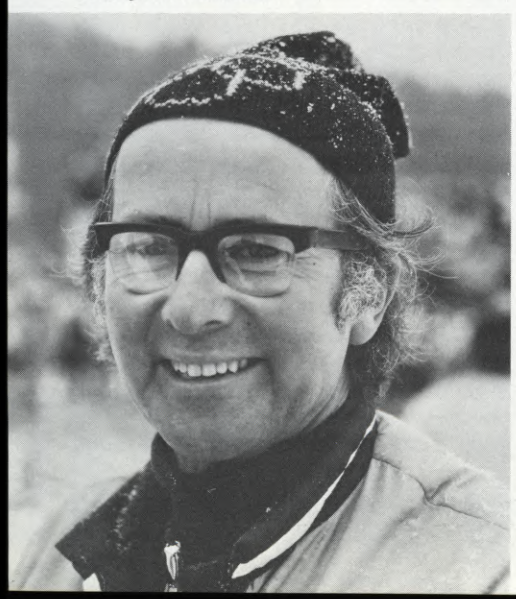
Director of Photography Arthur Wooster, a veteran of Mexico City and Munich Olympic Games, found his skating and skiing skills handy at Innsbruck.



Associate Producer Drummond Challis, whose middle name seems to be "Organization" rode herd on the thousands of details attendant to the filming.

A FEATURE CINEMATOGRAPHER PHOTOGRAPHS THE OLYMPICS

It's not at all the same as working on the average theatrical feature where each frame of each scene must be perfection, but this veteran of the major studios finds filming the Olympic Games a bracing challenge

The presence of Christopher Challis, BSC, on the crew of the Official Film at Innsbruck constituted a kind of unique "casting" phenomenon. Whereas, all of the others had been contracted on the basis of their excellence as sports cameramen, Mr. Challis has built a lengthy and notable career as one of Britain's foremost Lighting Cameramen — a "studio" cinematographer *par excellence.*

On his lengthy roster of feature films are such titles as: "THE GRASS IS GREENER", "TWO FOR THE ROAD", "A SHOT IN THE DARK", "GENEVIEVE", "THOSE MAGNIFICENT MEN IN THEIR FLYING MACHINES", "CHITTY CHITTY BANG BANG", "ARABESQUE", "THE LITTLE PRINCE", "MR. QUILP" and "THE LIFE OF SARAH BERNHARDT", to name just a few.

In the following interview, Mr. Challis discusses his work on the 1976 Winter Olympic Games Film and explains how it differs from his usual assignments:

QUESTION: I'm aware that this is a new and different kind of experience for you. During your lengthy career you've approached almost every kind of cinematographic assignment, but I would venture to say that this is the first Olympic Games you've photographed. Can you give me your impressions of the shoot thus far?

CHALLIS: Well, you're right. This is the first time I've ever done anything like this. In point of fact, I started my career, as a very young man, by working on a newsreel. That was my very first job, but I didn't work at it very long, so I am in no way an experienced newsreel photographer. I think it is an utterly different concept. The thing that I find most difficult to reconcile is that in the world in which I've grown up — the world of feature films — one strives to get everything perfect on every take. This becomes a built-in part of your metabolism, so to speak, and it is extremely difficult to shoot hoping that you are going to get only 5% or 10% right. I mean that, in my world, if you do a shot and it isn't all in focus, then it isn't good; whereas, here, if you can get two feet out of it, they are happy. I think it's extremely difficult to come to terms with this kind of approach. We strive to have everything perfect and they strive to extract the minimum under adverse conditions — and I think that is the greatest difference. Other than that, I suppose it is a completely different job from an organization point of view, in that they have so many cameras — whereas, we usually like to have only one. We complain when we have two because we lose control. I mean — most cameramen and directors by instinct hate the second camera because if there is only one right place to photograph anything from, the other camera is, of necessity, second best. This is very evident if you watch television or any other multiple-camera presentation. So, again, I think there is a great difference here, which one has to learn to go along with. It's a completely different concept, but I'm enjoying it very much. I'm finding it very interesting.

QUESTION: Do you find that your vast filming experience under all kinds of conditions — even though for features — has more or less prepared you to "roll with the punches", as they say, no matter what comes up?

CHALLIS: Yes, very definitely. I think that's absolutely true. The great lesson I've learned in making features is that photography — the visual side of making pictures — is incredibly important, but that it must finally take second place to the direction of the picture. I've always gone along with the idea of trying my best to do what a director wants. By that I don't mean that I submissively sit down and shoot anything. I will argue and try to change his mind, but if he is adamant I will do everything I humanly can to do it his way, because I feel that a story — and I think it applies equally to something like this — can only be told through the eyes of one person. I think that once you get away from that, the thing starts to become dissipated and is less good. So, all my life, I've learned to do things which I don't necessarily agree with 100%. I may feel that there are better ways of doing it, but I accept the fact that one has to, in the final analysis, do it someone else's way. I think that applies to this, too. I think that's the answer to it.

QUESTION: Now, a few words about the type of equipment that is being used on this shoot. I know, of course, that you've used Panavision anamorphic many, many times before, but what about the extremely long lenses and that sort of thing that are being used?

CHALLIS: I'm personally not in agreement about the way we are using the long lenses on this project. In this sort of documentary field they don't often use Panavision, because, basically, Panavision is studio equipment; it's feature film equipment and you cannot, in my opinion, use it properly with such small crews. You can't operate and focus or zoom at the same time. You need a bigger crew, because the Panavision lenses are not made that way. You need two assistants to work them effectively. I suppose that for many reasons it isn't possible to have full crews — financial reasons, problems of accommodation, and so on and so forth, but I do think that if you put a Panavision camera with a long focal-length lens alongside a television camera or a conventional movie camera, you are at a great disadvantage, because the equipment is that much bigger and that much more critical, and to get the optimum result I feel that you do need more people. Other than that, the use of long lenses is nothing new. They've been used in features; they've become very fashionable in commercials. In fact, I think that commercials have had an impact on features in the sense of shooting things with very long lenses and sort of, in effect, putting the subject matter in limbo against the background. We've seen that adapted to feature filmmaking; it's something we do all the time, but I do feel that there isn't a very full understanding, particularly among young directors, of what different focal length lenses do and how they affect not just focus, but the movement — the relative speed of movement. On this sort of coverage you may well be forced to get your closer angles by using longer focal length lenses, simply because you can't get any closer to the subject matter — whereas, if you were reenacting this sort of thing for a feature film, you would do exactly the opposite. If you wanted a close shot of a ski jump, or anything else expressing the essence of speed, you would go in very close with a very wide-angle lens, because the impact is very much

greater. We're doing the opposite because we can't do anything else except stay far from the action. But I don't think there is a full understanding of how different focal lengths affect pace and speed. Some cameramen just look upon it as a sort of nice effect, and they don't quite understand what it is doing to speed.

QUESTION: There is one Panaflex camera on this shoot. Have you personally had a chance to use it yet?

CHALLIS: Yes, I used it yesterday — but only as a second camera, actually. The main reason we used it was the angled eyepiece, which made it easier to operate low down on the ice. However, I've used the Panaflex in feature work and I think it's an absolutely marvelous camera. In fact, after the PSR, it's the next sort of breakthrough. We went for so many, many years in feature filming without any advance in cameras. We just stood absolutely still because, I suppose, there just was no money for camera investment. I always thought that the PSR, although it didn't look all that much different from the BNC, was, in fact, an enormous step forward — especially in terms of its optical system. The look-through is incredibly good. The camera is light and a most wonderful tool. I think I actually had the first one. I talked to Bob Gottschalk when I was making a picture with Stanley Donen called "TWO FOR THE ROAD", and he exerted every effort to get us the very first PSR camera that was let loose — and I loved it from the word go.

QUESTION: As far as this shoot is concerned, can you think of anything that has been absolutely different from what you've done before?

CHALLIS: Well, the answer is that in a long career of feature films, apart from the actual sort of creative side of lighting sets and things like that, most cameramen of my age and years in the business have photographed things like the Olympics — if not actually the Games themselves — as backgrounds or parts of fictional stories. I mean, we've all photographed Grand Prix racing and show jumping and so on — so it isn't, in fact, a new field. We would have done it in a different way. We would have reconstructed it and done it shot-by-shot, obviously, but it isn't all that different, in point of fact. Of course, this particular film goes halfway toward being a feature film, in the sense that it's not just newsreel coverage of the event. It's a sort of documentary-cum-feature that tries to link the events into a story. Nothing terribly new or different has happened, although there was one thing which happened yesterday which I found rather amusing. We were finally granted forty minutes on the ice rink here in order to get some extra cuts of the Soviet winners of the pairs figure skating event, and there was a sort of great amount of tension because we didn't have much time and were waiting to do it in between rehearsals for ice hockey. Finally they came along and said: "Right, you're on. We're just going to clean the ice and resurface it and then you can go on." Well, the director was most anxious to have everything set up on time, so he said: "Get the cameras onto the ice." The Panaflex was mounted to a board on a hi-hat and we moved it onto the ice. When the skaters came on, he said: "All right, move the camera over here." But we couldn't move it. Because we had moved it in while the ice was still wet, it was frozen solid there, and we needed a sort of pick-axe to get it up. In the midst of all the drama, I found this amusing.

QUESTION: What are your reactions to shooting in these mountain areas?

CHALLIS: Well, I'm not an Alpine sportsman at all. I don't skate or ski, and I don't like mountains terribly. I find them claustrophobic.

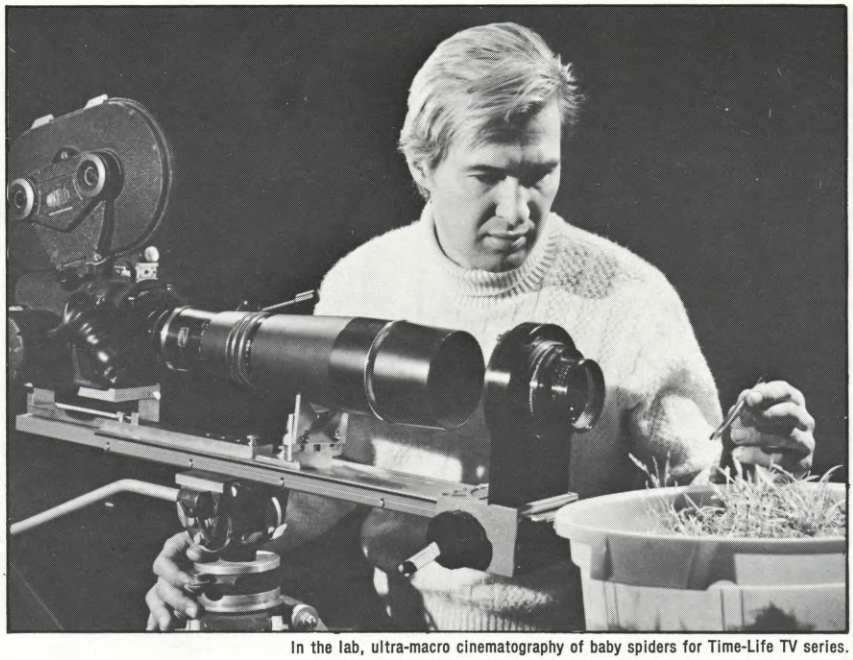
QUESTION: What are your attitudes toward flashing, forcing development and things like that?

CHALLIS: I have a very simple philosophy about all those sorts of things. I think that one should strive to do it right. By that I mean that I think exposure should be correct. I think one should aim to give the lab a well-balanced negative. I would never force-develop, unless it was the only way I could do something, because I think that finally one loses. Labs will tell you that it doesn't matter and that it will look all right. I think there are things that you'll accept as being all right in the dailies, but each time they're duped or you make CRI's off them the quality goes down and down until, in the final release print, they really suffer. I think this is where any degradation of the original image, the original negative, is magnified. Once you have opticals and things like that superimposed, the quality really suffers. Therefore, I hate to do anything like this consciously. I like to always try to avoid it and get it as nearly right as possible. You see, I feel that when it comes to underexposure and imbalance of color, you can't, in the latter stages, put something back that isn't there. You can always take out what you don't want. You can degrade things deliberately if you want to later on, but you can't put back things that aren't there and I think it's dangerous to try. It has been a great fashion lately to ignore the look of pictures. We've had a sort of whole bout of young directors who may be extremely clever in their approach to filmmaking, but who have very little technical knowledge and who force cameramen to shoot under conditions that are far from right. In fact, the results are mediocre and downright bad, and they can be

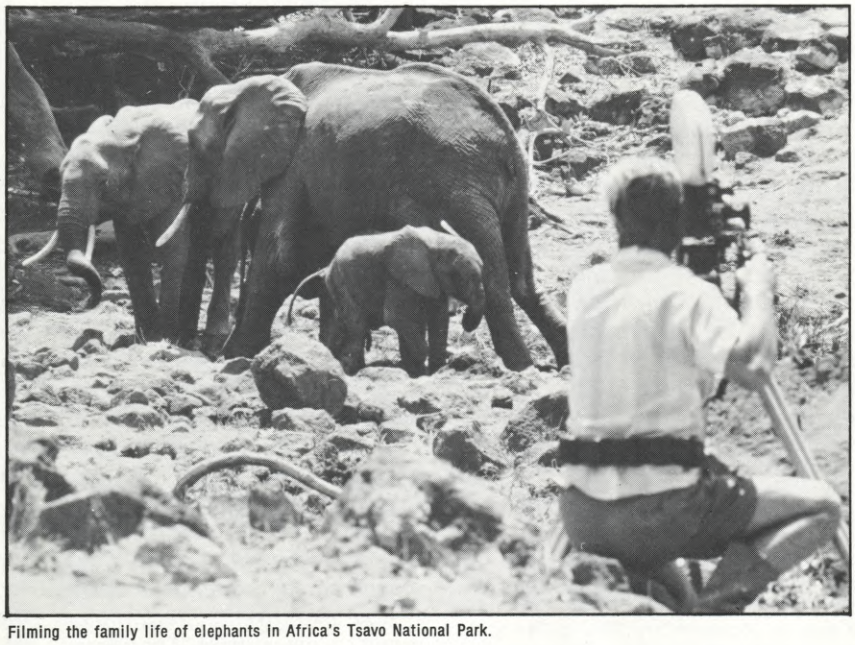
Continued on Page 458

Famed British Lighting Cameraman Christopher Challis, BSC, fresh from having photographed "THE LIFE OF SARAH BERNHARDT", finds himself suddenly transplanted to Innsbruck behind a Panavision-adapted Arriflex photographing Men's Speed Skating. Although he acknowledges the special demands of sports/documentary filming, he still maintains that certain standards of photographic excellence can and should be maintained.

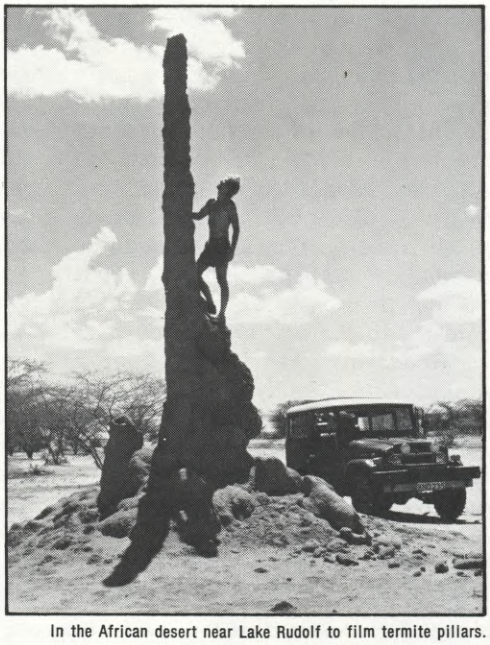
On location for National Geographic in the raw Wyoming winter.



In the lab, ultra-macro cinematography of baby spiders for Time-Life TV series.



Filming the family life of elephants in Africa's Tsavo National Park.



In the African desert near Lake Rudolf to film termite pillars.

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SCENARIO - INNSBRUCK 1976

Blueprint for a theatrical feature in which pictures will not be used merely to back up a rock score, but in which the excitement of the music will merge with and enhance the excitement of the visuals

By TONY MAYLAM

SECOND DRAFT TREATMENT
FOR
THE OFFICIAL FILM OF THE 1976 WINTER OLYMPIC GAMES

"WHITE ROCK"

This document does not represent a shooting script, but is a treatment around which the final shape and style of the film will be constructed.

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1. OPENING TITLE SEQUENCE
2. 90 METRE JUMP (Theme—'Courage')
3. BIATHLON RELAY (Theme—'Endurance')
4. ICE HOCKEY (Theme—'Aggression')
5. MEN'S DOWNHILL/SLALOM (Theme—'Speed')
6. FIGURE SKATING/PAIRS (Theme—'Artistry')
7. BOBSLEIGH/LUGE (Theme—'Bullet Force')
8. CLOSING CEREMONY AND END TITLES SEQUENCE.

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1. *OPENING SEQUENCE AND TITLES*

The film opens by holding an extreme close-up on a pair of eyes staring in fixed concentration through blue-tinted goggles. The eyes are fixed on a point beyond the camera. The lens is long to give a feeling of intimacy. A voice breaks the silence with a command — "O.K., let's go."

On the command, the camera cuts to a wider close-up to reveal James Coburn, as he swings an open-face crash-helmet up and over his head to complement the full-width goggles. Coburn adjusts the chin strap of the helmet as we establish his face.

We then cut to another close up of a second man putting on a similar helmet; then a third; and fourth. Each shot is with a long lens to give a diffused background. Their individual breathing against the cold air can be heard and seen.

The running tracks of a sled pass through frame followed by four pairs of feet. We cut to a very low 'point of view' shot looking forward, as the sled moves slowly to the edge of a long downhill 'bob run' gully. The shot is reversed, again mounted on the sled, looking up at the four men, all dressed in two-tone jump suits, helmeted and with goggles across their eyes.

They are now gently pushing the sled in a forwards and backwards motion. Extreme close-ups of the runners are seen moving against the glass-like surface, intercut with hands and faces of the four men.

For the first time we cut to a wide-angle shot, looking down on the men still gently rocking the sled. A complex refrigerated bob run is revealed winding its way down the Igls hillside. In the background, the hint of Innsbruck can be seen spread out like a map below.

Suddenly, the men's pace quickens. Their leader shouts an abrupt command, and as though one body, they accelerate forward and mount the bob sled. We cut to a shot at ice level, looking back at the bob, as it speeds towards the camera. And then to a 'POV' shot looking forward with the camera mounted two inches from the ice surface. The sled lifts up onto the banking and gives the feeling of almost doing a loop. It cuts down into a right-hand turn before rising again onto the banking and into a left-hand turn.

A reverse angle shows the huddled and distorted face of James Coburn — his eyes almost popping out of their sockets, the immense 'G' pressure forcing his cheeks into his mouth.

We cut to a wider angle shot from the front housing of the bob showing all the team members inclined backwards to give the best streamlining of their speeding capsule. The harsh noise of the sled fighting the ice surface is the only sound to be heard.

We return to the 'POV' shot with the camera mounted on the front of the sled, looking forward at ice level, as the sled reaches its optimum-speed on the fastest section of the run.

We cut to a low angle long lens shot at the end of the run. The sled crosses the finish line and starts its incline to slow the pace and bring the bob to a halt. It eventually comes to a stop inches in front of the camera — we cut to a wider-angle shot as three of the team immediately climb off and move out of shot. James Coburn remains seated, but removes his helmet and goggles. He talks to camera in a low-key, informal manner:

> "I've raced cars and boats — ridden wild steers in a rodeo — and they've all shaken me about a bit. But the 75 seconds on this 1220-metre switchback puts up to two 'Gs' of pressure on the body — and you know you've been for a ride. It ranks as an ultimate 'high'!
>
> "But for many people *all* forms of winter sports are something rather distant — possibly something they would like to get into, but because of where they live in the world or the tremendous expense will never be able to afford the opportunity to share the thrills, excitement and sheer poetry experienced when participating in the wide spectrum of winter sports."

We cut to an aerial shot taken high up in the Austrian Tyrol. The helicopter tracks through two mountain peaks and picks up a lone skier cutting across a virgin

ridge. The light powder snow lifting off the surface in a fine white sheet.

The YES opening theme is introduced. And the first title is superimposed over this aerial shot. (PRODUCTION COMPANY CREDIT).

The action cuts to the skier's 'eye line' — the camera actually mounted to his body giving his 'point of view'. The sound of the skis against the snow, cuts through the YES score. The second title is superimposed over the action. (JAMES COBURN).

The skier is now surrounded by trees as he accelerates down through an open clearing at over 80 mph. The camera now cuts to a reverse close-up of the skier. His somewhat distorted face vibrating under the pressure. The third title is superimposed and the YES score builds. (MUSIC by YES).

We cut to a wide angle shot from the tower above the 90-metre jump take-off and landing zone. A jumper starts his descent — the camera holding him large in frame at the beginning of the shot — allowing him to diminish in size as he speeds down the slope taking off into the open bowl. The City of Innsbruck can be seen spread out one mile below. The MAIN TITLE is superimposed over this action, followed by a supplementary title (OFFICIAL FILM OF THE 1976 WINTER OLYMPIC GAMES).

The pace now quickens, as the cuts get shorter. A speed skater loses control and somersaults across the ice (a fourth title-card is superimposed). A 'POV' from the chest of a slalom skier, as he crashes through a set of gates on the Olympic run. (A fifth title-card.) A 160-degree pan of a one-man luge on the banking (a sixth title-card). A cross-country skier frothing at the mouth over the last 100 metres of a 50 kilometre marathon. (A seventh title-card.) A brutal confrontation in an ice hockey attack. (An eighth title-card.) A figure skater lifting into a spiral jump with the camera running at 96 frames per second to slow down the action. (A ninth title card.)

The YES theme becomes a fuller sound — melodic simple, clear. A long dissolve takes us through to a series of aerial tracking shots with the viewer on a bird's-eye view journey through the Austrian Tyrol. Tall snow-covered mountains break the clear blue skyline. Long dissolves link each shot. (Additional title-cards will be superimposed over these aerial shots.)

Once established, this low key mood, sustained by the YES score, will fade and the voice of James Coburn will break through. He will introduce the Austrian Tyrol, Innsbruck and the 1976 Winter Olympic Games.

The long dissolves linking the opening aerial shots also combine the first glimpse of Innsbruck from the air, concluding with a slow zoom taken from the very top of the 90-metre jump tower which introduces the Opening Ceremony. This zoom will open wide on the bowl, showing the parading nations below and pan slowly up and into the flame of the stationary Olympic Torch. Superimposed over the flame will be the ceremony depicting the 'handing over' of the Olympic flag from the 1972 Sapporo Winter Olympics. The YES theme will come to a powerful climax as the last title fades.

---

2. *90-METRE JUMP SEQUENCE*

Having faded to black after the opening title sequence, we fade in to see James Coburn standing on the very lip of the 90-metre jump take-off run. At first an extreme close-up on his face as he looks to camera and starts his dialogue — and then a slow zoom out to reveal Coburn on the isolated lip.

> "On February 15th, 1976, this is one of the loneliest places in sport — the final take-off point for the 90-metre Olympic ski jump. The leading competitors will be reaching close to 75 mph as they explode off this lip — without anything but two skis between them and the ground. A poor take-off position or landing could mean a serious accident. If a racing driver loses his nerve, he can pull over to the side, a bull fighter can jump over the surrounding wall. A ski jumper, once he starts, has to do it right . . . it is one of the few sports where there is no turning back."

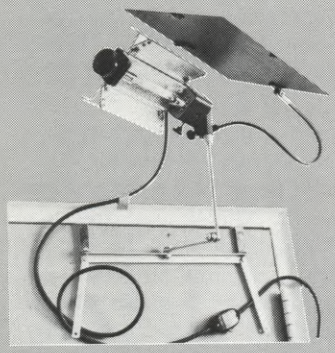
We cut to a ski jumper preparing for a run. He is moving his skis backwards and forwards slowly on the spot to warm the wax. We cut to extreme close-ups of the skis, hands and face of the jumper. YES music is building with the tight spot effects present.

The jumper then starts his take-off run and the camera pans with him. The music breaks open. As the pan starts, it is revealed that the ski jumper is on film focused onto a back-projection screen. In front of the 160-degree panoramic screen is the full band of YES, playing the track specially scored as their interpretation of ski jumping.

(This sequence will be set and filmed on one of the larger Pinewood or Shepperton sound stages. A soft 'white' look will be given to the shots and set-ups, and a great deal of attention will be placed on the lighting and overall feel of the scenes. This studio sequence, and others like it that follow in later sequences, will be shot

Continued on Page 414

Location lighting's not what it used to be.



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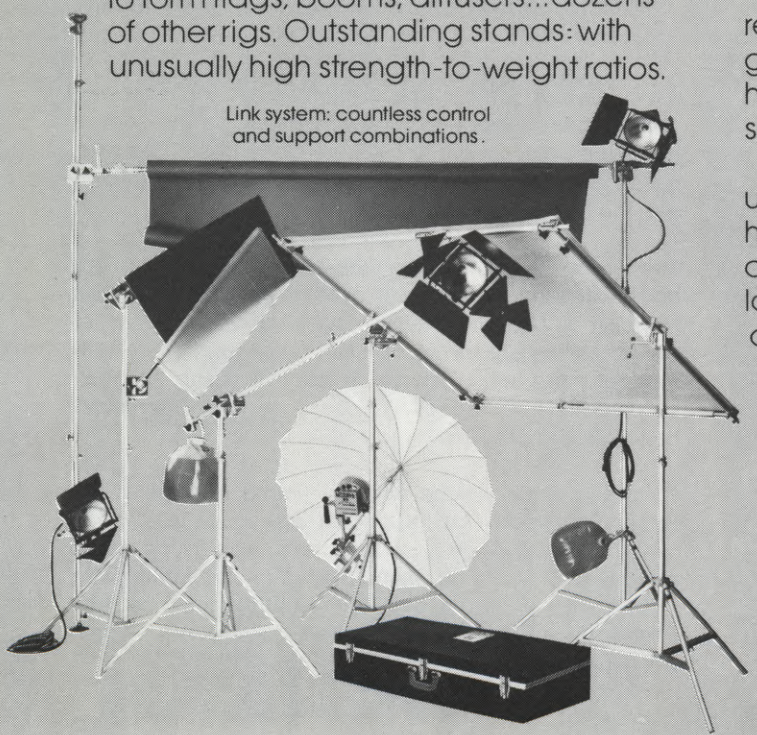

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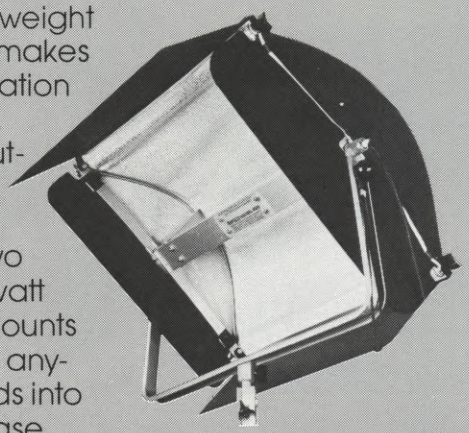

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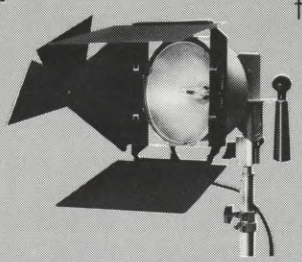

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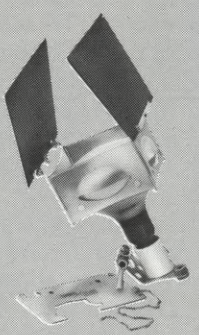

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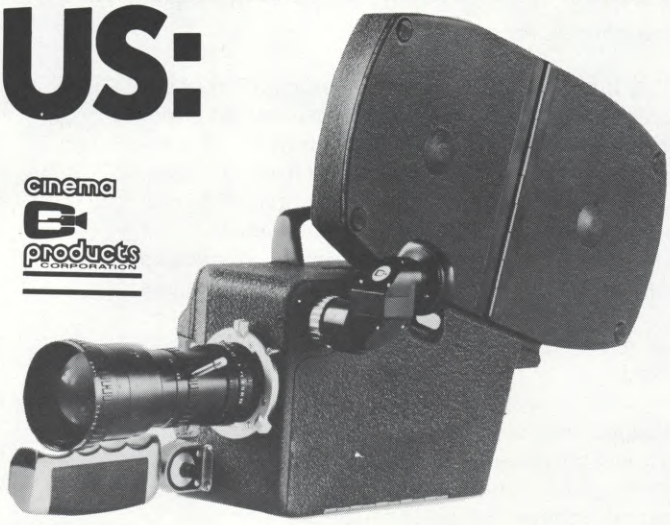

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after the Olympics, when the full score has been written, recorded and mixed, so that playback can be used.)

Set back amongst the members of the band will be a front-projection screen, showing (and synchronised with) the same sequence as seen on the back-projection unit. The pace will suddenly quicken and a fast-cutting scene will follow, utilizing the full scope of the Panavision 'anamorphic' format.

By dividing the screen into thirds, a combination of the ski action, and the band playing, can build into an effective stylized sequence. A 'head' close-up of Jon Anderson singing (or playing) could fill the left-hand frame. The ski action, continued, could fill the center-frame. And the hands of Patric Moraz on his keyboards could fill the right-hand frame. A vast number of picture combinations could follow — including full wipes (allowing one of the third sections to spread to two frames or even the full frame — and for the process to be reversed).

(Great attention will be placed on insuring that YES and the sports action are totally integrated with each other — that the physical appearance of YES is never allowed to swamp or impede the sincerity of the Olympics or sports action, but will simply enhance the appeal of the production.)

We return to James Coburn in vision at the top of the Innsbruck 90-metre Jump tower — the camera pans down the take-off run with Coburn in the foreground. He speaks in vision:

> "270 feet down to the lip at an angle of 33½ degrees. Smooth, compact snow — the jumpers crouch down for maximum take-off speed. Their only contact with the ground — two skis. Is there any other sport that is so spectacular or awe-inspiring? Is there any other in which courage and gracefulness combine so closely?
>
> "From where I am standing — I can see a graveyard below the bowl — that, combined with the sheer drop to where the jumper will eventually land has convinced me that the 95 competitors who challenge for this gold medal in the Winter Olympics are amongst the bravest in the complete spectrum of sport."

We then cut to a POV (point of view) shot from a ski jumper's eyeline, as he travels from the foot of the tower, down the 270 foot take-off run and into the open mass of the Innsbruck bowl, with his two skis projecting out of the bottom of frame — the viewer will witness the slight shudder as the jumper lands and continues up the other side of the bowl, slowing to a halt at the top and in front of the national flags of all the countries competing.

The same sequence will be repeated, except that this time a reverse shot on the skier will be included as he heads down the run, opening with the camera taking in the complete crouched body. We will cut to the POV as the jumper passes through frame after take-off. He will be picked up upon landing, from a camera positioned at the end of the run-off area, on the top edge of the bowl.

(Over this second run descriptive off-camera narration from Coburn and voice-over commentary from the jumper will explain the finer points of technique, speed and style. It will be stressed that who jumps farthest does not necessarily win. In the air 'he' soars to greatness or fades to obscurity, watched by five discerning pairs of eyes in the judging tower. Marks for style are awarded, with the middle three sets being those that count.)

A final POV jump will be shown in slow-motion, before leading into the actual Olympic competition.

Using a combination of 'stop action' and 'split screen', the 1976 Olympic 90-metre ski Jump sequence will show how one of the leading jumpers (i.e., Walter Schnabl of Austria, or Ewald Grosche of Germany) will always succeed over the tail-end competitors.

Their techniques and styles will be compared — where Schnabl or Grosche pick up the marks on style and distance, and where the tail-enders fail. James Coburn's narration will cover the factual background and competition detail.

Finally, a free-form sequence to YES music will lead to the new Olympic Champion making his winning jump. The music will reflect the achievement.

---

3. *BIATHLON RELAY (Theme — 'ENDURANCE')*

We cut to an extreme close up of two fingers placing a bullet into the breach of a rifle. The bolt is slammed shut — and a finger squeezes the trigger. There is a slight kick. The bolt is opened and a second bullet is placed in the breach.

We then cut to a wider angle close up of James Coburn deep in concentration. The right side of his face rests tightly against the butt of the rifle. His face jolts very slightly as he pulls the trigger. He reloads and on the next shot of the gun we cut to behind to see his full-stretched body lying on the snow. The camera zooms in quickly to the target area, 200 metres ahead. The target has four penetrations all within a small group, off the 'bull' zone. We cut back to an extreme CU of Coburn's face as he fires one final shot. He then turns his head slightly and talks to camera, still from his lying position.

> "That target is 200 metres away — not a great distance with a fully-balanced and accurately-sighted rifle. I had no real difficulty getting five shots in succession within the target area from this prone position. However, try doing the same thing after just completing 2½ kilometres, or even 5 kilometres, competitive cross-country skiing."

Coburn rises with a certain amount of difficulty as he has secured to his feet a pair of skis. He continues the introduction . . . .

> "That's the basis of the biathlon, a rigorous contest on snow, requiring the alertness of a hunted animal, the eyesight of a hawk and the steel nerves of a racing driver — the biathlon has been popular

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ABC'S FILMING OF THE 1976 WINTER OLYMPICS

Although electronic cameras of the ABC-TV network did a magnificent job of beaming the events of the 1976 Winter Olympics throughout the world, the network's film crews added a very special dimension

By BRICE WEISMAN

Producer/Director, 1976 Olympics, Innsbruck and Montreal

Our filming project was designed to provide ABC Sports with supplementary programming in addition to our regular coverage — to, in essence, generate another dimension of completeness of coverage by contributing profiles of personalities and sketches, if you will, of athletes away from their areas of competition — in their homes, with their families, where they are, hopefully, most like themselves. The idea is that we are used to seeing athletes in competition wearing different uniforms and protective gear which protect them from injury, but also protect them from any sort of real intimate look, any sort of contact on the part of the spectators, whether they are at the stadium or in their living rooms.

I think we realize that in order to be an Olympic athlete, the individual must have qualities of discipline, dedication, perseverance, ambition — or a combination of all of those — in addition to natural coordination and basic physical gifts. That's what we're after. Is there a way to find a common denominator? Probably not, but it's worth looking for.

We started about two years ago to compile a list of world-class competitors in all of the Olympic disciplines and, by watching them carefully in international competitions around the world, we were able to narrow the list down to people who, within six months here at Innsbruck, were likely to be at the very forefront of their team's challenge for medals. We then sat down and looked at the budget and decided that out of that total we could afford to film only so many. It was a great disappointment to have to cut the list down, but in any planning, you have to decide, out of all that you'd like to do, what can realistically be done.

With the final list chosen, we actually began filming last June, with scenes of the U.S. Ski Team working out at Mt. Hood in Oregon. Then, in August, we went to Europe for a two-week jaunt. I came back for three days and then went to Russia for four weeks. I came back for about ten days and then went on an American swing. I did another American swing and another two and a half weeks in Europe. Then back for the final competition in January and back over to Innsbruck to actually get ready for the Games. There was a lot of traveling and when I was home, of course, there were pieces to review that the editors had been working on while I was away — and we tried to bring everything together.

We have been busier than we thought we would be here in Innsbruck. There are only a relatively few disciplined sports that are in competition and we have very good electronic coverage of these — either on our own, as ABC, or in combination with ORF (Austrian Television), or by ORF on their own. Almost every single sport is covered electronically, so that in very few cases would there ever be a demand for us to shoot straight sports coverage. Therefore, we use our film crews to develop special film pieces, as opposed to ,,pseudo-electronic'' pieces.

We do high-speed things. We do impressionistic studies of what it's like for a skier to go down a hill. We do studies on film of the town of Innsbruck and surrounding areas. We do pieces that are meant to suggest what it's like to be here. It is difficult to get that across in just any medium, but the power of suggestion implicit in film is one of that medium's strong points.

In a general sense, very little of our stuff has been directly straightforward. It's always been sort of suggestive, or evocative. That's what film does best, and that's what we are here for. Occasionally, when the electronic apparatus is not available, we'll go out and do interviews. We are prepared to do that and we do it pretty well, but generally our purpose is to add another dimension, the suggestion that we are doing as complete a job as it is possible to do. I think we've been doing that.

We try to concentrate on subjects that can be done better on film than on tape. For example, while the Ikagami Electronic Camera was used very successfully in a helicopter to get some gorgeous scenics around the mountains of this area, we used an Arri ST, with a 5.9mm lens, hand-held by one of our cameramen who is a former skier for the Canadian National Team, and he did a run down the downhill and Giant Slalom courses holding the camera in his hands. It turned out to be an absolutely gorgeous piece of film, and when we've put it on television we've gotten great response from it.

We've used film to develop certain ideas about music and we've por-

Continued on Page 437

The author, Brice Weisman, is a veteran of the filming of the Munich Olympic Games for ABC-TV, as well as innumerable special programs for ABC's Wide World of Sports. For the Innsbruck Games, his film crews worked months ahead, traveling around the world to film personal stories of the prospective Olympics contenders. They arrived at Innsbruck with 45 "pieces" of edited film, but continued to film continuously during the Games.

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"WHITE ROCK" — A NEW KIND OF OLYMPICS FILM

Continued from Page 403

Russian pair, won the Gold Medal for figure skating and were technically superb, I think the pair that got through to the public with the greatest impact were the American couple, Gardner and Babilonia, because they had a tremendous sort of charisma on the ice. We are taking them out to a lake in the mountains where we will completely stylize their routine visually, slow it down very slightly, shoot it through certain effects filters and do the whole thing to a YES musical interpretation. I think it will be a very exciting segment of the film.

The Ice Hockey, which we haven't actually filmed yet, is the one that has me worried, because I cannot see a way that we can get the ultimate positions — and when you can't get the ultimate positions, it's never going to be as good as one would like it to be. Originally we had planned to have cameras literally at ice level, but because of a lot of political reasons it hasn't worked out like that.

On the Downhill we got much better material than we expected. The high-speed sports have worked out incredibly well. The shots made with the 2000mm lens, for example, are outstanding. Overall, I think everything will work out, but it will take a five-month editing job to get it right, and until one actually starts editing, it's very difficult to know exactly how it's going to end up.

The Coburn material could turn out to be as much as one-third of the finished film. In other words, we are not looking for a colossal amount of Olympics coverage, as such. If we can get five minutes out of an event and it's outstanding, then that will be great. If you've got 15 minutes of excellent footage and you're looking for five minutes of outstanding material, then you can get that five minutes.

There is a shot that Arthur Wooster did on the Downhill with one of the Canadian skiers which is one of the most incredible shots I've ever seen. It's in four stages. The skier comes around a sharp curve, loses it, and goes into a straw bale. Then he comes out of it in a sort of mound of snow and projects himself head-first down the Downhill. Then you see his skis go by in slow motion, and then his goggles come off and he is grasping for things. Then you suddenly see a guy come out and rescue him. That shot alone lasted for more than two minutes on the screen.

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HISTORIC HOLLYWOOD MOVIE STUDIOS – PART II

The second installment of a three-part pictorial backward glance at Movietown, U.S.A., in the days when it was growing up and cameramen were hand-cranking monarchs of all they surveyed

By MARC WANAMAKER

In the public mind, the studios representative of the film industry as a whole, in the decade of the 20's, are those companies which made it big, such as: Goldwyn, Metro, Fox, Universal.

But the 20's were also representative of those studios which lasted only a short while and whose product did not stand the test of time.

The old studios in the Los Angeles area were continually used and re-used by many different companies, successful and unsuccessful. The cameramen who worked for these companies were a breed that travelled with them or moved from company to company.

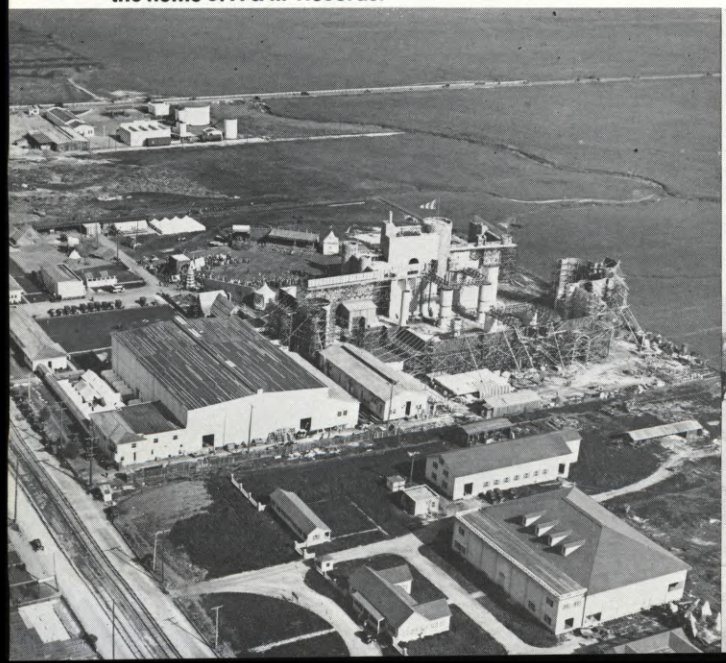
In the history of the film studios, the phrase "Poverty Row" pops up. Many people have heard this term applied to the small studios that sprang up mainly in the Hollywood area and quickly disappeared. But "Poverty Row" was located in two specific Los Angeles districts: one in the area of Gower, Beachwood and Sunset Blvd., and the other on Allesandro Ave. in Edendale, after the early studios moved out or went out of business.

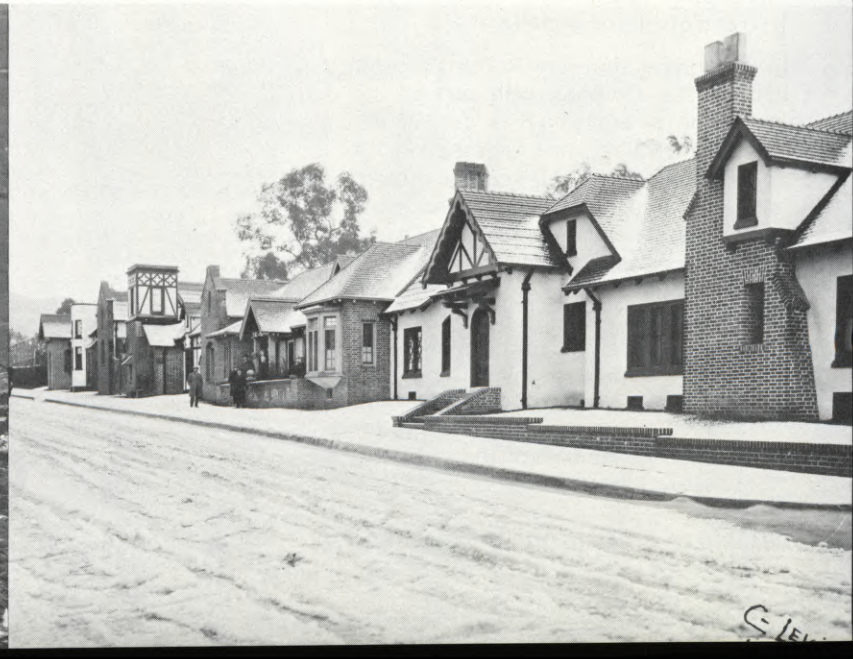
In 1918, the Sunset and Gower area was developed into a film producing mecca. Studios and laboratories were erected up and down Sunset Blvd. between Gower and Beachwood Drive.

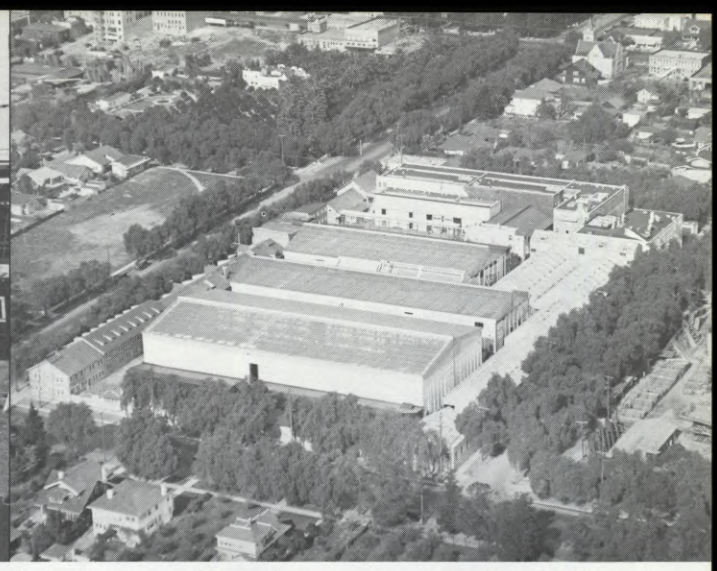
The two English brothers, David and William Horsley, who set up their Nestor Comedies Studio at Gower and Sunset, later also built the Wm. Horsley laboratory and studio at 6050-6060

(ABOVE RIGHT) The old Norbig Film Studio at 1745 Allesandro Ave. in Edendale. By 1922 it became the Reaguer Production Co. and, in 1924, Westwood Productions. (BELOW LEFT) The William Horsley laboratory and studio at 6050-6060 Sunset Blvd. between Beachwood Drive and Gower St. in 1920. Burston Pictures was renting space at the studio, but, like many other small producers of the 20's, soon went out of business. (RIGHT) The Christie Comedy Studio at Sunset and Gower in 1922.

(LEFT) Located in 1922 at 7200 Santa Monica Blvd. was the Pickford-Fairbanks Studio. Built by Benjamin B. Hampton, the lot later was the home of United Artists and Samuel Goldwyn Productions. (RIGHT) The beautiful Chaplin Studio at 1416 No. LaBrea, as shown in January of 1921, during an extremely rare snowfall. The studio later became a TV rental lot and, in the 1950's, was known as the Kling Studios. Today it is the home of A & M Records.







(LEFT) The early Metro Studio was located at 1025 Lillian Way before merging with the Goldwyn and Mayer companies in Culver City in 1924. Afterward, the facilities were used by the Buster Keaton Studio. (RIGHT) At Sunset and Vine, the Famous Players Lasky Company was cramped into two square city blocks, as shown here in 1922. After the studio moved to Melrose Ave., the original lot was demolished.

Sunset Blvd. In their buildings were offices where small producing companies set up shop to try their hand at movie-making.

Over the years, literally hundreds of production companies were located on this street; it was the market place of the independents. Actors, cowboys, cameramen and others literally stood on Sunset Blvd. between Beachwood and Gower for 30 years, talking shop and waiting for jobs.

The Nestor Studio was taken over by Fred Balshofer for his "Quality Pictures" brand for a year, going to the next occupant, Christie Comedies, which produced their brand into the 30's. Across from Christie was the Century Company, on the southwest corner.

The Edendale "Poverty Row" on Allesandro Ave. (now Glendale Blvd.) was the first birthplace of the permanent studios in Los Angeles. Col. Wil-

Continued on Page 422

(ABOVE RIGHT) The Hollywood Studios at 6642 Santa Monica Blvd. in 1926 was the home of Harold Lloyd Productions. Later, Howard Hughes used the facilities. It is now known as the General Service Studio. (BELOW LEFT) One of the most successful rental lots in Hollywood was the Tec-Art Studio at 5360 Melrose Ave. (RIGHT) At the Educational Studio in 1925 there were many producing companies making shorts and features.

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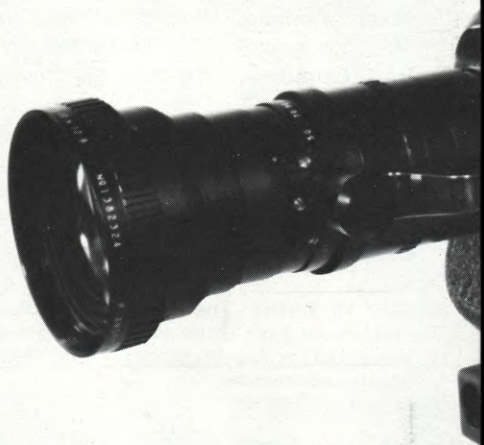
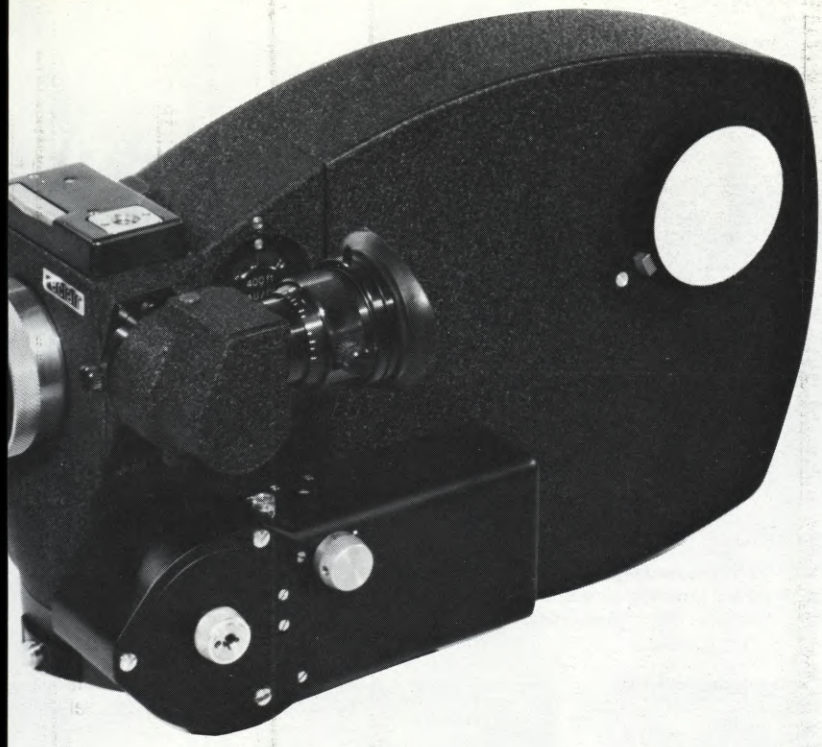
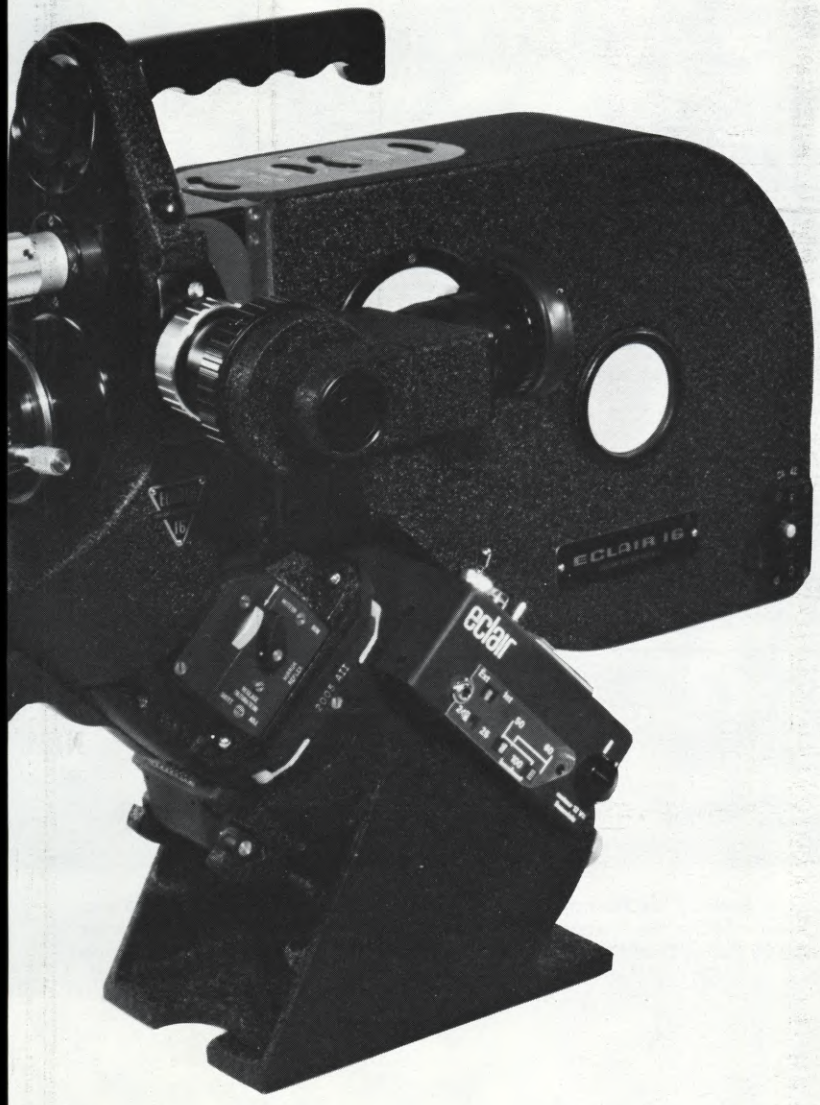


Eclair NPR

■ The world-famous 16mm noiseless, portable reflex camera precision built in France. Features five-second magazine change, blimp-free silent running, cordless sync sound with crystal control motor, automatic clapper system, built-in sync-pulse generator, registration pin movement, rotating finder and eyepiece, extra viewing area in finder, spool or core loads up to 400 feet, adaptable component parts, comfortable shoulder-resting and low and unobtrusive profile.

Eclair 16mm ACL has been selected by O.R.T.O. (Olympics Radio and Television Organization) as the official motion picture documentary camera for the 1976 Olympiad in Montreal.





It probably isn't possible to single out one 16mm motion picture camera and say for certain that it's the best in the world. For one thing, Eclair International of France makes more than one 16mm camera.

First there's the French Eclair NPR. It set the standard for all modern, professional 16mm cameras. Its innovative design features and precision craftsmanship resulted in the first camera compact and light enough to allow real spontaneity in photography without sacrificing picture quality or reliability.

Part of this is the result of its low, unobtrusive profile that can be attributed to the snap-on, co-axial magazine that can be changed in less than five seconds without touching the film.

And to the NPR's famous twin-lens turret that allows you to switch from one lens to another in a matter of seconds.

Part of the NPR's versatility comes from the rugged BEALA motor that's really three motors in one. It's a crystal control motor at 24 or 25 fps. It's a constant speed motor with a built-in sync-pulse generator. And it's a variable-speed motor with rheostat control for continual variance from 4 to 40 fps. This motor was also the first one designed so it would always stop with the mirror shutter in the viewing position.

The NPR also features a precisely accurate registration pin and pull-down claw mechanism to assure maximum steadiness. Also standard with the NPR is the Angenieux "dove prism" orientable viewfinder that maintains an erect image, while rotating a full 360°. This viewfinder not only delivers a brilliant, sharp image, but it also provides a clearly-marked extra viewing area beyond the standard 1:1.33 16mm aperture and TV safe cutoff.

The NPR was truly an advance in the state of the art of camera design when it was introduced. And by constant refinement, it has maintained its position as the finest 16mm camera of its kind.

Eclair International also makes the French Eclair ACL. It was designed to incorporate many of the most successful features of the NPR. Features such as the instant-snap-on co-axial magazine, which is available in both a 200 ft. and a 400 ft. version.

But the ACL was designed to be even lighter and more compact. In fact, it is the smallest, lightest self-blimped camera made.

It features its own patented interchangeable lens mount system that allows you to use lenses with any of the well-known professional mounts. And there is the added versatility of a "C" mount.

The ACL has a heavy-duty variable speed, crystal control motor that lets you choose speeds of 8, 12, 24/25, 50 or 75 fps.

And the ACL's viewfinder rotates 360°, so it can swing up vertically for low angle shooting and even backwards for candid shots.

In addition, the French Eclair ACL features an exclusive new through-the-lens light exposure monitoring device called LED 7. The LED 7 system incorporates seven light emitting diodes in the viewfinder which light up to alert you instantly to any deviation in exposure level from a given setting. So you can adjust the aperture setting to compensate for changes without your eyes ever leaving the viewfinder.

Like the NPR, the ACL is a precision, hand-crafted professional camera built to be rugged and dependable as well as silent and portable.

If there's anything about these cameras we haven't told you, contact us or your nearest Eclair dealer and we'll be happy to answer your questions. But please don't ask us which camera is better, because we just don't have an answer to that.

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(LEFT) During the successful years of Mike C. Levee's managerial rule over this rental studio, many famous names used the lot. Here, in 1922, was the welcoming committee for the Anita Stewart Company. Miss Stewart, wearing furs and hat, is standing center right. (RIGHT) Cecil B. DeMille stands by the camera used by Al Gandolfi and Oscar Apfel for their first film, "THE SQUAW MAN", shot at the Selma and Vine Studio in 1913. This picture was taken in 1939.

HOLLYWOOD MOVIE STUDIOS

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liam Selig began his Selig Polyscope Studio at 1845 Allesandro Ave. in 1909 and many other companies also started nearby, such as Mack Sennett at 1712 and the Bison Company at 1719, down the block. By 1918, smaller studios opened on the street. The Norbig Company built a mission-style studio at 1745 Allesandro, but didn't last too long. The Reaguer Production Company occupied the same plant from 1922 to 1924 when Westwood Productions took over. Other independents used the building well into the 1930's.

Today, the films that these poverty companies made don't exist. Moreover, the studios themselves are long gone and totally forgotten because they weren't there long enough to be remembered.

However, not all the small studios were "fly-by-night".

By 1921, small companies such as Chaplin, Pickford-Fairbanks, Christie, Educational, Hal Roach, and others were at the height of their success, and the cameramen employed by them enjoyed some security in their jobs.

On some of the larger productions, such as "ROBIN HOOD", cameramen such as Arthur Edeson took on monumental tasks to film the Douglas Fairbanks spectacles as well as the Pick-

(ABOVE) The Federated Booking Offices (F.B.O.) at 780 Gower St. in 1926. Originally the Robertson-Cole Studio, by the end of the 20's it merged with Radio-Keith-Orpheum (RKO). (BELOW) The RKO Studio on Gower, after the merger. This studio later became Desilu in the 1950's and today is part of Paramount.

(LEFT) The Goldwyn Studios on Washington Blvd. in Culver City, 1922. Built by the Triangle Company (Thomas Ince, Mgr.), this studio was purchased by Samuel Goldwyn in 1919. (RIGHT) When Goldwyn moved into the old Triangle plant, Ince moved into his own studio a quarter of a mile away. This studio was taken over by DeMille in 1926, followed by Pathe, David O. Selznick, RKO-Pathe and Desilu. It is now known as the Culver City Studios.

(LEFT) The United Studios at 5341 Melrose Ave. in 1921. Formerly the Paralta and Brunton Studios, it became the home of the Famous Players-Lasky-Paramount Studios in 1926. (RIGHT) Aerial photo of the Western Vitagraph Studio in 1921 at Prospect and Talmadge Avenues in East Hollywood. By the end of the 20's, the Warner Bros. bought out the Vitagraph Co. Today this lot houses the ABC-TV Center.

ford productions. The Pickford-Fairbanks studio at 7200 Santa Monica Blvd., purchased in 1920 from Benjamin B. Hampton (an early producer and later film historian), was the center of Fairbanks' spectacles for years. Later, when United Artists was formed by Mary Pickford, Douglas Fairbanks, Charles Chaplin and others, this studio became United Artists and even later, the Goldwyn Studio.

Next door was the Principal Pictures Studio with Sol Lesser as President. He sold this studio to Educational in the mid 20's. The Educational Studio located at 7250 Santa Monica Blvd. at Poinsettia, was the home of many brands of films, such as the Lloyd Hamilton Comedies.

There were many rental studios in and around Los Angeles, where independent producers who had no permanent home could hire independent workers on a part-time basis and make a picture. One of the most important and busiest of these was the Tec-Art Studio at 5360 Melrose Ave. This studio, originally owned by William H. Clune, was taken over by the Tec-Art Company of New York. By 1927 it was used by small producers making shorts, features and industrial films.

The Chaplin brothers, by 1921, had built a self-contained studio on La Brea Ave. between De Longpre and Sunset Blvd. For many years, this studio was the center for all Chaplin productions, later functioning as a rental studio and in the 1950's as the Kling T.V. studio. Today A & M Records occupies the site.

At 6642 Santa Monica Blvd. near Highland, was the Hollywood Studio, purchased by the Christie Brothers in 1925. Harold Lloyd made this studio his production headquarters, and at the

Continued on Page 426

(ABOVE) J. Stuart Blackton and Albert E. Smith, founders of the Vitagraph Company, are seen standing with Theodore K. Hastings in 1924. (BELOW) The Universal Film Manufacturing Company on Lankershim Blvd., North Hollywood, in 1924. Built in 1912 on the Oak Crest Ranch, it is today the Universal City Studios, largest in the world.

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HOLLYWOOD MOVIE STUDIOS

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close of the 20's Howard Hughes was located there. Afterwards it became the Metropolitan Studio, then the General Service Studio as it is known today.

The Metro Pictures Corp. was a growing concern in the 20's. Its plant located at 1025 Lillian Way at Eleanor St., had been leased back in 1917 by the B.A. Rolfe Company, from an earlier occupant, the old Chaplin-Mutual Studio, where Charlie Chaplin worked before he built his own place. Metro built up its reputation here under its production head, Louis B. Mayer, before merging with the Goldwyn and Mayer companies in Culver City in 1924.

Hollywood, by 1922, was the center of the growing film factories. At Sunset and Vine, Famous Players Lasky took up two city blocks. Among the different production companies working on the FPL lot was the Cecil B. De Mille unit. De Mille, who was one of the founders and board members of the company, produced most of his films at the 6284 Selma Street studio and kept the camera that was used by their cameraman, A. Gandolfi, in 1913 for their first film "THE SQUAW MAN". When De Mille was assembling the battery of cameramen to shoot "THE TEN COMMANDMENTS" (1923), the Technicolor Company, which had just perfected their color processing system, brought their own cameras to shoot side by side with the regular ones. Ray Rennahan was assigned to do their color photography side by side with the black and white cameras, operated by Bert Glennon, Edward Curtis, Peverell Marley, A.J. Stout and J.F. Westerberg.

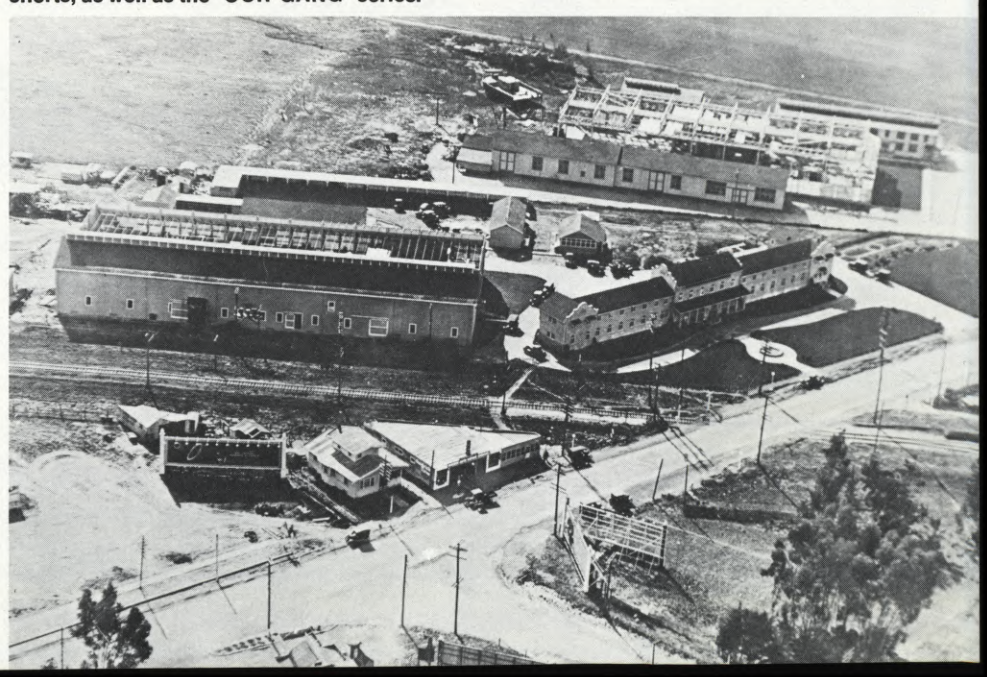
Michael C. Levee, the President of the United Studio and later the General Manager of First National, was running one of the largest rental studios in Hollywood at that time. The building, at 5341 Melrose Ave. had originally been built by Robert Brunton and had been used by Douglas Fairbanks, Anita Stewart and others, until Adolph Zukor and Jesse Lasky purchased it in 1926.

By 1927, the original Lasky studio at Sunset and Vine was abandoned and shortly thereafter demolished. But De Mille and Jesse Lasky had the original barn, where "THE SQUAW MAN" was made, moved to the Melrose Avenue location. Now known as Famous Players-Lasky-Paramount, they proceeded to make many memorable films shot by memorable cinematographers and cameramen: Hal Rosson, Harry

Westerns were the major product of the early Universal Studio. Here in 1917, Director Fred Kelsey (in cowboy gear) is directing Harry Carey (holding gun) in "LOVE'S LARIAT", a Bluebird production. They are being watched by the public as part of the early Universal Studio Tours, a popular event of the time.

Samuel Goldwyn standing with two new arrivals at his studio. On his left is the opera star, Geraldine Farrar. To her left is writer Rex Beach. Seen behind Mr. Goldwyn's right shoulder is writer-poet Rupert Hughes. To the right of Mr. Goldwyn is Mabel Normand, former Mack Sennett comedienne.

The Hal Roach Studio at National and Washington Blvds. in Culver City in 1921. Originally built for the Rolin (Roach-Lloyd) Company in 1916, it was the home of the Laurel and Hardy shorts, as well as the "OUR GANG" series.



Hollenberger, Al Gilks, J. O. Taylor, James Wong Howe, Harry Perry, Norbert Brodine, and back in their Astoria, Long Island plant, by Eddie Cronjager, among others. William De Mille joined the directorial staff in 1926 and the biggest picture made at this studio was "THE KING OF KINGS".

At Gower and Melrose, next to the United Studio, was the Robertson-Cole Studio (later known as the Federated Booking Offices) F.B.O. It started as a film booking office for theatre chains but went into production and later merged with the Keith-Orpheum Theatre Circuit and the Radio Corporation of America, forming Radio-Keith-Orpheum (R.K.O.). They acquired the F.B.O. Studio and, by 1928, were gearing up for sound pictures. By the 1930's, R.K.O. was a leading movie company making very successful sound films.

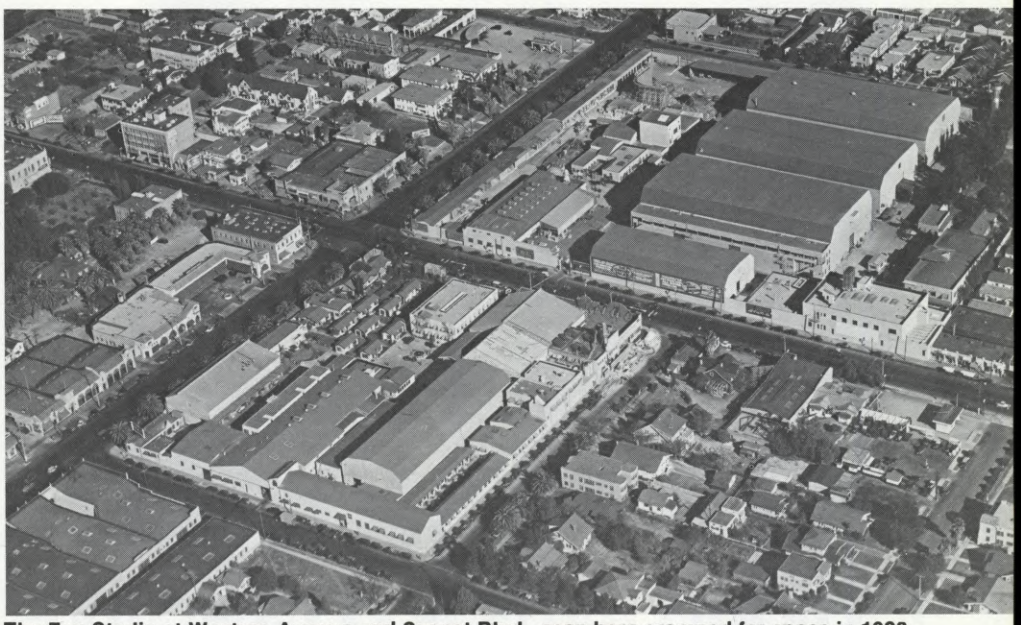
On the east side of town, the Vitagraph Studio at Prospect and Talmadge Aves. was one of the largest and most successful studios in Los Angeles in 1921. J. Stuart Blackton and Albert E. Smith, two of the founders of the Vitagraph Company back east in 1906, brought their still photographer, Theodore K. Hastings, from New York. By 1926, with the coming of sound, Vitagraph merged with Warner Bros., making the Warner Bros. Studio the most powerful company by the beginning of the 1930's.

The Universal Film Company, consistently a successful large producing center throughout the 1920's and 30's and still located on Lankershim Blvd. in North Hollywood, employed the most technicians at that time and maintained many complete departments, including a large camera department. Many westerns were produced there, starring Hoot Gibson, Harry Carey and others. Some Universal cameramen became expert at western outdoor photography, while others developed new techniques for Carl Laemmle's large productions, such as "THE PHANTOM OF THE OPERA".

Culver City was also becoming a growing movie studio center. Back in 1916, the Triangle Company built their studio on Washington Blvd., with Thomas Ince as their production head and H. O. Davis as General Manager. But by 1919, Triangle ceased their operations, Samuel Goldwyn Productions purchased the property and Thomas Ince built his own studio at 9336 Washington Blvd., a quarter mile away. There he created a large output of films using a modern studio system of production, supervising all departments himself. But he arranged for

Continued on Page 436

Hal Roach employed a battery of cameramen to shoot the many shorts the studio produced. Top row: Otto Himm, Jack Roach, Harry Gerstad. Bottom row: Art Lloyd, Nick Barrows, H. Kohler, Frank Young, Bert Currigan, L.A. Robertson, Bob Doran and Walter Lundin.



The Fox Studio at Western Avenue and Sunset Blvd., seen here cramped for space in 1928. William Fox took over this studio from Thomas Dixon (author of "THE CLANSMAN") in 1917. Two shopping centers occupy the site today.

The Fox Movietone Studio in Fox Hills, West Los Angeles, in 1930. All Fox production moved to this new studio, leaving the Western Ave. studio as a laboratory and studio annex. Today this site houses the 20th Century-Fox Studios.

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"Lighting conditions that all conspired to ruin exposures on ECN 7247.

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"Making films is a creative partnership. TVC was a member of our production team."

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AN IMPROVED DAYLIGHT PAR LIGHTING SYSTEM

The incandescent, dichroic coated PAR lamps have been a useful item for the past decade to provide daylight fill. They have been used in compact, multiple clusters which are easily transported and operated. Lamps without the dichroic coating, as well as coated lamps with different beam spreads, are available to make these units even more versatile. Their useful life, however, has been fairly short, based on the filament design and the deterioration of the coating. The coating deterioration, in fact, has presented many problems in the use of this system and the cost of coated lamps is relatively high. A system which could combine a long-life coating with a relatively inexpensive lamp could, therefore, provide many benefits.

TABLE 1	Lamp watts	Lamp Type	Lamp life (hrs)	Color (°K)	Beam Angle °	Candlepower
Existing PAR 36	650	FAY	20 hours	5000°K	19x24°	35,000
Existing PAR 64	1000	FGM	200 hours	5200°K	6x13°	200,000
Sun-Scout new system	650	DVY	25 hours	5500°K	9x13°	96,000
Sun-Scout new system	600	DYH	75 hours	5200°K	9x13°	82,000

TABLE I — Comparison of existing PAR lamps with new Sun-Scout System.

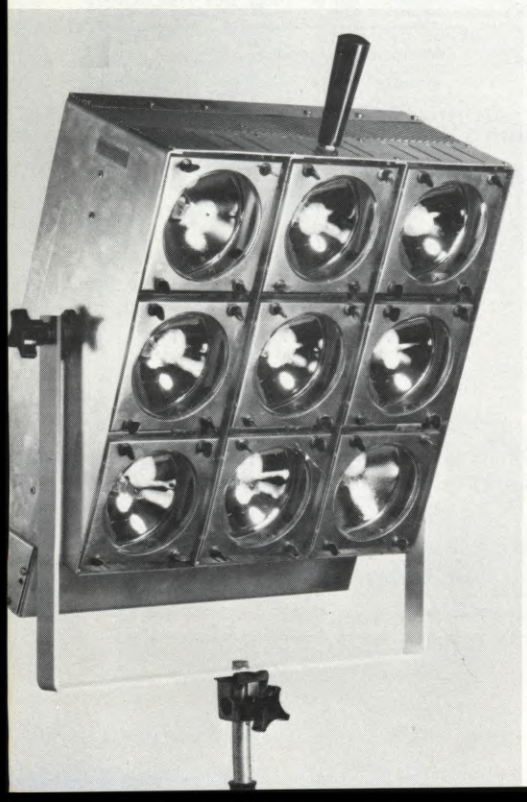
DICHROIC COATINGS

Many types of dichroic coatings are available. These coatings are basically multilayer films which are vacuum-deposited on a base material. Depending upon the material used in coating and the desired results, the film can range from just a few layers to over twenty. They can be deposited so that they will not wear off in use — which can also make it possible to clean them. Some types of coatings will withstand high temperatures and the coating life is isually a time-temperature factor.

The basic principle of a dichroic coating is that it will transmit energy of one range of wave lengths and reflect the remaining wave lengths. Dichroic filters have been used as hot or cold mirrors to either reflect or transmit infrared energy, while transmitting or reflecting the remaining energy. They also are used as color or narrow-band reflectors where a given range or a small portion of the spectrum is controlled. A cold mirror can typically reflect over 90 per cent of the visible light, while reducing the infrared energy by at least 50 per cent. A typical daylight correction filter used to increase the color temperature of a 3200°K light beam 5500°K will reduce the beam intensity by 40 to 50 per cent.

Combining the capabilities of dichroic coatings can increase their capabilities. The typical coated PAR lamps have an aluminized reflector and a color correction coating of the face. The reflection of light by the aluminized surface will result in about a 10 per cent loss of light. The coated face will add about a 40 per cent light loss for a total loss of about 50 per cent. Also it should be noted that the energy reflected by the face coating is trapped in the lamp and must be dissipated as heat. This raises the lamp's operating temperature, which contributes greatly to the deterioration of the coating.

The new Sun-Scout 650 is almost three times higher in foot-candle intensity than the FAY light, but heat transmitted by beam is reduced by 80%.



ART BODKINS OPTICS

For the past decade color-correction filters which have been guaranteed to provide the desired color correction and not to fade have been available from Art Bodkins Optics. They have been supplied with or used on most of the quartz lights made by various fixture manufacturers. These filters are able to be cleaned, and they have stood up to the heat generated by the compact quartz lighting fixtures.

The success of these filters has led to the development of two lights for use in medical photography. These provide great reduction in heat in a light beam without drastically reducing the beam intensity. They are being used in many medical applications and have been found to be both safe and cool by the biophotographers. Their unique approach to heat-free lighting, with and without color-correction, became the basis for further developments.

A NEW PAR LIGHT SYSTEM

The ability to combine coating capabilities is the heart of this new system. It uses a dichroic coated reflector to reflect predominantly only the desired visible portion of the spectrum. This creates a beam of light which is uniformly color corrected. The remaining energy is transmitted out the back of the lamp where it can be easily dealt with as a major source of heat. Since the dichroic coating has an exceptionally long life, it need not be replaced with each lamp replacement. A standard 4½" diameter glass reflector is used along with a replaceable compact tungsten-halogen lamp. A standard glass face plate is also used and a variety of beams are available by changing face plate.

Previous attempts to use dichroic coated reflectors in existing PAR lamp heads have not been successful. The sockets and wires used in existing systems will not withstand the energy which is transmitted onto them through the coating. It was, therefore, necessary to develop this as a total system and not just create a retrofit for existing units.

The existing daylight-corrected PAR lamps trap the energy that is eliminated from the beam. This must be converted to heat which reduces the life of the coating and also limits the life of the tungsten-halogen lamp. By not trapping this heat within a sealed envelope and by allowing air flow by the lamp base and socket, no lamp life problems have been experienced. As

should be expected, the fixture housing operates at a high temperature, but all elements are designed to operate satisfactorily under these conditions.

SYSTEM PERFORMANCE

The performance data for this new system as compared to existing FAY and FGM lamps are shown in Table I. It can be noted that the difference in light sources used in these two systems produces a difference in beam shape. The ability of this new system to produce a narrow beam with a high intensity from a small package is a basic advantage. This provides much greater punch from small fixtures. Where wider beams are needed, the cover glass can be replaced with a variety of spread lenses which will produce a variety of beam spreads.

The increased performance from this new system is a result of the high reflectivity of the dichroic surface. Its selectivity in reflecting and transmitting energy provides the desired daylight conversion, while also reducing the heat in the beam. By both controlling heat and light, the object being illuminated does not suffer from the blast of heat that normally accompanies a high-intensity beam.

The individual reflector assemblies for the new system are comparable in size to the FAY lamp. Their maximum intensity, however, is almost three times that of the FAY lamp. It is also much smaller (4½-inch diameter, versus 8-inch-diameter) than the FGM and produces about 1/2 the intensity from about 2/3 of the power. This small size and high intensity performance provide many benefits in the use of this system.

COST FACTORS

The cost of this new system, complete with lamps, is comparable to the cost of a similar FAY lamp unit with lamps. The major advantage of the new system is not in its initial cost but in the recurring replacement lamp cost. The list price of the FAY lamp is in the $30.00 to $35.00 price range. The list price of the FGM lamp is in the $100.00 to $120.00 price range. The list price of the DVY lamp is in the $13.00 to $15.00 range. If one of the new 9-light units cost the user $600.00, and figuring that it only replaces a 9-light FAY unit and without bothering to figure lamp-life differences, the new unit will pay for itself by the sixth set of replacement lamps, figuring normal lamp discount. Based on the actual useful life of the FAY lamp and the difference in system performance, this new system should pay for itself very quickly. The new Art Bodkins PAR light system is known as

Continued on Page 474

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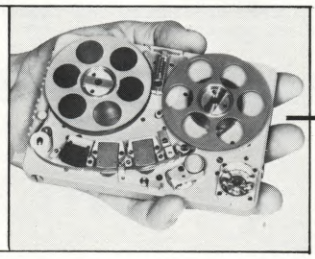
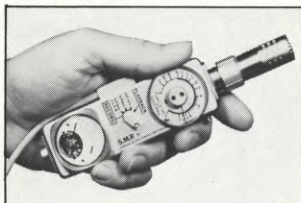


Conventional mixing. Use with any standard fixed or portable microphone mixer



SNN with SMR hand held manual mixer with microphone attached

SNN with SMR hand held manual mixer with microphone on boom

Automatic mixing with microphone on stand

Automatic mixing using lavalier type microphone

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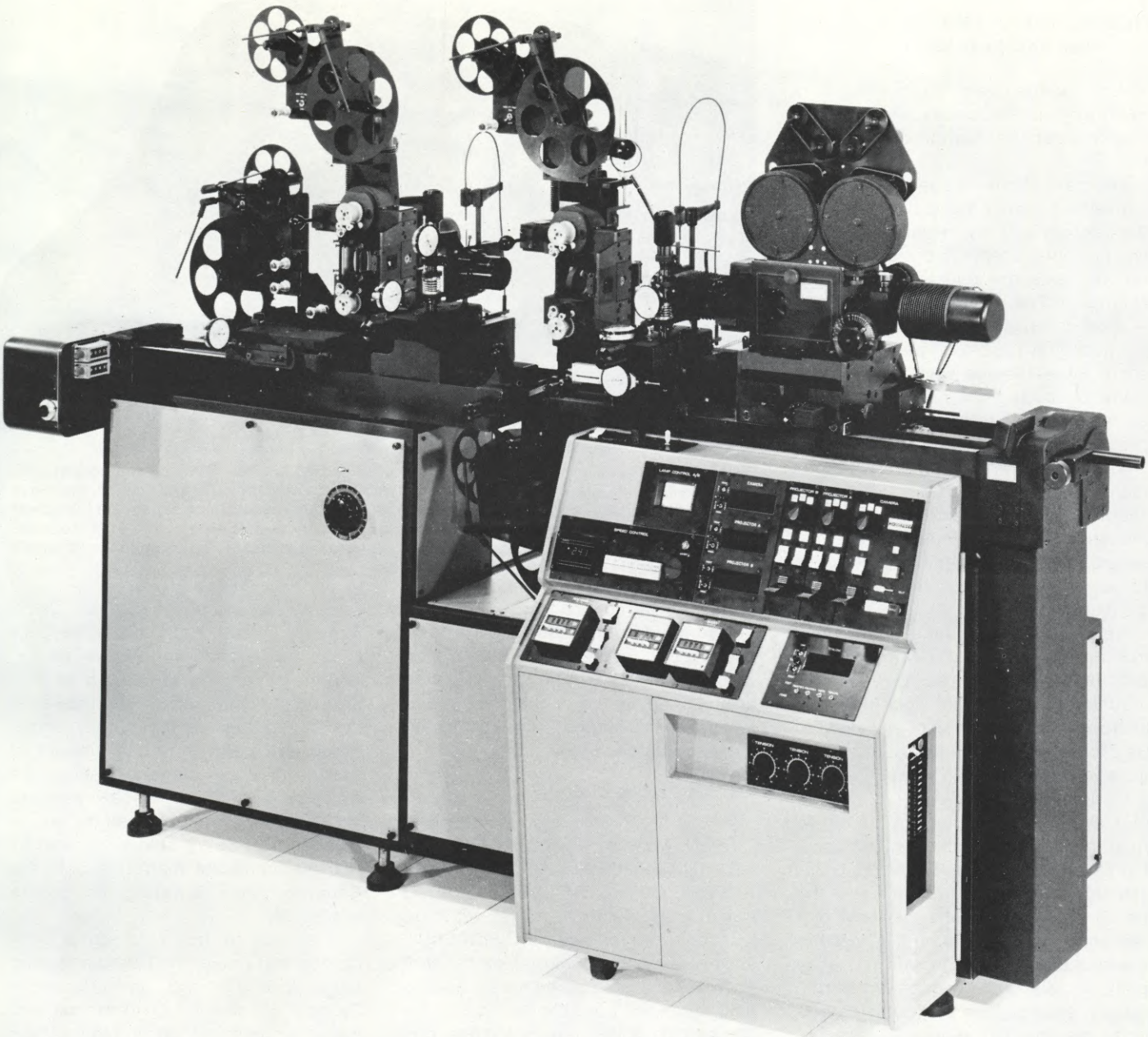

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Continued from Page 399

which Austrian ski champion, Karl Schranz gives a subjective view of what it's like to run the Downhill course at full tilt.

For part of the sequence, Schranz himself is carrying a peculiar rig for the Arriflex devised by Herbie Raditschnig. For other scenes, Herbie wears the rig and skis the course next to the champion. The result is mind-boggling — a super trip on skis.

I hear that Herbie is going to shoot some more footage with his rig, so I clamp on my skis and ride up to the top of Patscherkofel to shoot some photographs of him with it.

There he is, with this weird arrangement of plumbing draped from his shoulders, an Arriflex dangling from the end. He skis by quite gracefully several times with what looks like a rather clumsy rig, but he's obviously got it under control.

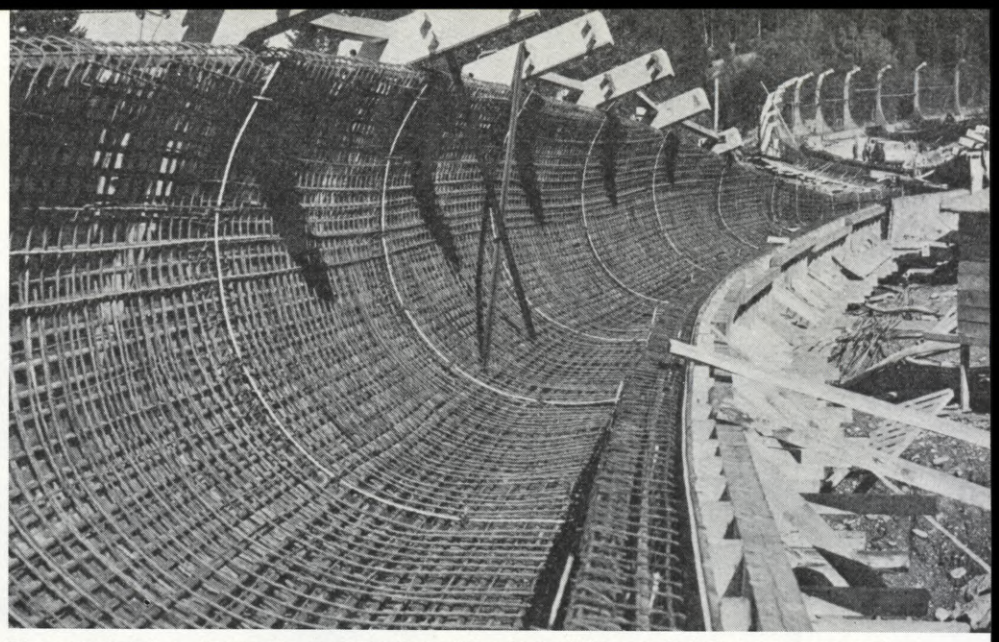
Herbie's got everything under control. Fortyish and built like a bantam bull, he is a former Austrian soldier, mountaineering guide, rock-climbing instructor and skier *par excellence.* He's tough as hell, but one of the nicest guys you'd ever want to meet.

Herbie had been with us at the Munich Games, but here in his native Austria (he's from Salzburg, but commutes to New York), he is really invaluable. Not only does he know the territory, but he speaks the local dialect and is a master at cutting through the red tape strewn in our paths by petty officials, drunk with power. Herbie rapidly emerges as the most charismatic member of the crew — a kind of Superman of the mountains, and we all rely on him very heavily.

But he's not alone. All of the technicians on this hand-picked crew are of a very special breed. I've been with them on three Olympic Games shoots now, and have really gotten a chance to know and appreciate them. With the exception of one lone semi-Anglicized Dutchman, Eric van Haren Noman, they are all British — but crazy enough to be Americans. They are a hard-drinking, lusty-wenching, loud-singing lot of roistering extroverts who also happen to be superbly skilled film technicians.

Many's the time I've caroused half the night with them, only to see them at crack of dawn the next morning hauling heavy equipment up an icy slope, setting it up, shooting fantastic movies with it. What larks I've had with these lusty lads, and what a marvelous lot they are.

Their effect on the gentle Austrians in the village where we're staying starts out as a true culture shock, but soon the barmaids are getting used to getting slapped on the fanny and are even enjoying it. The men are growing accustomed to the rough humor and joining in the laughs. They are losing that long-suffering look.



Photograph taken during the construction of the incredible new Bobsled run constructed near the village of Igls for the 1976 Winter Olympics. Costing more than $5 million, the run is totally computerized, with the temperature of each square meter being capable of individual control. The artificially refrigerated run was used for the 2-man Bobsled, 4-man Bobsled, Single Luge and 2-man Luge events. A luge is a small sled similar in design to the "Flexible Flyer" which is the delight of American children.

Welcome to the Club

An old friend arrives on the scene — Director Norman Jewison ("FIDDLER ON THE ROOF", "JESUS CHRIST SUPERSTAR", "ROLLERBALL"). I haven't seen him since I was on location in Yugoslavia with "FIDDLER", and it's a warm reunion. I gather that Norman has volunteered his services to help out in any possible way, just so he can be part of the Games. Michael rigs him out in a blue snowsuit and promptly makes a "grip" out of him — the most expensive grip in the history of the film industry, I might add. But Norman spends the following week cheerfully *schlepping* 1000mm lenses up and down the mountain for the camera crews — and enjoying every minute of it.

A rather exotic member of the crew, with us this first time out on an Olympics shoot, is famed veteran Lighting Cameraman Christopher Challis, BSC, whose credits read like a gilt-edged roster of British film production. I had seen him last on the set of "MR. QUILP" at Shepperton Studios, but here he is togged out in a blue snowsuit like the rest of us and seemingly having a ball. His son, Drummond Challis, is the film's Associate Producer — a super-efficient, very cool cat.

The crews rig in the ice arena to shoot the figure skating pairs. Chris Challis has his camera set on a balcony at one end of the stadium. David Samuelson and Ron Collins, respectively, are perched up in flower boxes, like thorns among the tulips. At rink level John Palmer is manning the Panaflex — and his is the critical angle. There had been a certain amount of ruckus about his camera position, the claim being that the magazine would impede the view of guests of the mayor of Innsbruck. The problem is solved by rear-mounting the magazine onto the Panaflex, thus lowering its profile acceptably.

It seems to be a foregone conclusion that one of the Russian skating pairs, Irina Rodnina and Alexander Zaitsev, will win the Gold Medal, and the crews concentrate on filming their entire number. They win, just as expected, and arrangements are made to film pick-up closeups later with them in a private session on the ice. The director is also impressed with the spectacular vitality of the young American team of Randy Gardner and Tai Babilonia and negotiations are begun to shoot a "dream sequence" of them skating on a mountain lake.

A couple of days later, 40 minutes of ice time in the arena are allotted to shoot pick-ups of the Russian skaters. Arthur Wooster skates around with them, his camera on an ingenious ice skate mount. The time available is short, but he manages to get what he wants.

Incidentally, there is a sign inside the ice arena which informs one and all (in German only) that the lighting inside this structure is provided by banks of 2000K metal-halogen lamps, having a color temperature of 5500°K. Our

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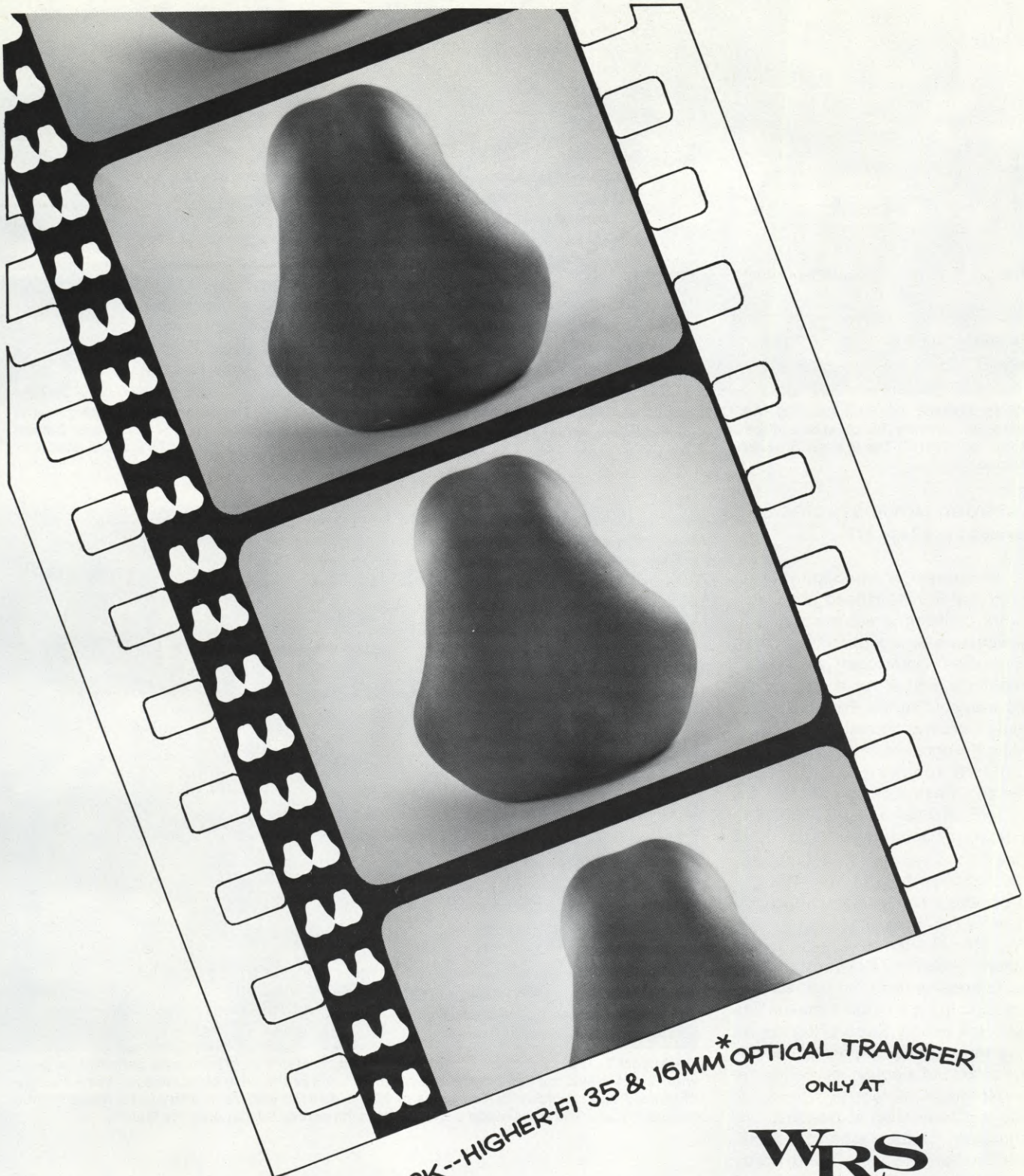

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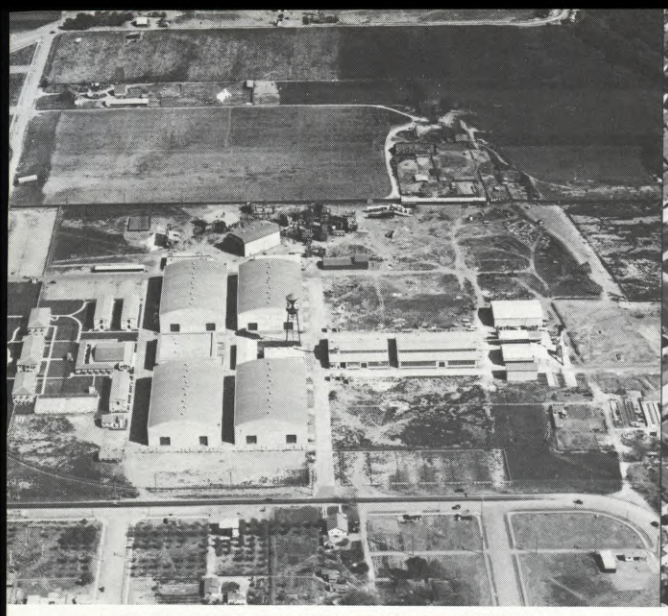

(LEFT) In Burbank, the First National Film Corporation built their modern studio off Barham Blvd. in 1926. The company later merged with Warner Bros., making this plant one of the largest in the United States. It is now the Burbank Studios, housing both Warner Bros. and Columbia Pictures. (RIGHT) The Warner Bros. Studio at Sunset Blvd. and Van Ness in Hollywood, famous as the studio where "THE JAZZ SINGER" was filmed.

HOLLYWOOD MOVIE STUDIOS

Continued from Page 427

each department an autonomy of its own, so that in his planned absences, the work could progress according to plan, without a central guiding hand on the premises. Unfortunately, in 1924, Thomas Ince died at the age of 45. His studio was sold to the Producers Distributing Corporation and then to C. B. De Mille Productions in 1925. The Ince Studio was renamed the De Mille Studio and the first picture made there was "THE ROAD TO YESTERDAY" with Joseph Schildkraut and Jetta Goudal.

Sam Goldwyn built the old Triangle property into a famous studio destined to grow into a "Hollywood" legend. By 1919, Mr. Goldwyn formed the "Eminent Authors Corporation" to bring famous writers to the screen, such as Booth Tarkington, Octavus Roy Cohen, Rex Beach, Rupert Hughes, as well as the famous opera star, Geraldine Farrar and popular comedienne, Mabel Normand.

Also in Culver City, at National and Washington Blvds., stood the Hal Roach Studio. The Laurel and Hardy series and the Our Gang series were at the top of the line, but there were many other types of films produced there, making the Roach Studio a rather large producer at a rather small studio.

By 1926, the major studios of Los Angeles were getting larger and their need for space grew, forcing them to move out of their locations.

The William Fox studio, at Western and Sunset since 1917, was running out of room. Their only alternative, with the coming of sound, was to expand to a new and larger studio. They built their

Continued on Page 456

On August 7, 1926, Jack L. Warner, Ernst Lubitsch, Harry M. Warner and Sam Warner pose with Will H. Hays, the head of the "Hays Office". It was the birth of Vitaphone, when the synchronized and recorded performance of "DON JUAN", with John Barrymore, made motion picture history. Will Hays made a speech from the screen introducing the feature.

The Al Christie and Mack Sennett Studio at 4202 Radford Drive in Studio City in 1929. The studio later became the home of Mascot and Republic Studios. Today it is the CBS Television Center.

ABC FILMING

Continued from Page 415

trayed the idea of the persistence of struggle of ski jumpers who must climb hundreds and hundreds of steps up a mountain to the top. All of a sudden they are there; they go off; then they go all the way back up again. Well, that takes a certain kind of dedication, because it's a heck of a climb up there.

We have a combination crew, just as we had in Munich in 1972. We have four of the very top cameramen in England — Harvey Harrison, Mike Delaney, Harry Hart and Eric van Haren Noman — all from the Samuelson Film Service organization. Michael Samuelson always gives us his top guys. He's always been very generous that way. We've got two very good American cameramen that we've been using for years, D'Arcy Marsh and Don Shapiro. Both of these are from the East, but have worked all over for us, with excellent results. We also have Dick Wagner from the Los Angeles area and Jennifer Weigert from Munich. Our soundmen include Colin Charles and Rene Borisewitz from London — again, two of Samuelson's best. We're delighted with the crew we've got. We couldn't be any happier.

Our sound equipment is all Nagra IV and we are occasionally using wireless microphones, but not all that much, because they always require a bit of extra time to set up and generally, for an interview, it's as easy to hand-hold a stick mike as it is to wire a subject.

We've been getting very good results from the four Eclair NPR's which we've used with a basic complement of 12-to-120mm zoom lenses. There are some 9.5-to-95mm lenses for working in slightly more restricted areas, where you need the extra width at the short end. We have four 20-to-1 (12mm-to-240mm) lenses which we've found to be excellent. Given an f/4.8 light level, we can use them almost anywhere. There's been a problem only in the ice hall, where, at 24 frames, we can just barely hold the f/4.8 level.

By now we have a standard comple-

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(LEFT) Producer/director Brice Weisman with 100 feet of 7247 in an Arri S trying (successfully) to capture some of the excitement and action of the U.S. Hockey Team practice session. He was less successful trying to recapture some of the speed he thinks he had as a college hockey player. (RIGHT) Special "roller" training jump used by American ski jumper Jerry Martin outside Minneapolis, Minn.

(LEFT) Cameraman Bruce Buckley checks lighting during filming of sequence with Linda Martin, wife of American ski jumper Jerry Martin. (CENTER) Soviet cameraman Vadim Vyasov shoots low angle of balance beam workout of gymnast Nellikim Chimkent. (RIGHT) Traveling studio of ABC film crew during height of frenzied wrap-up at midpoint of one of its American junkets.

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crews, therefore, shoot for a daylight balance with the 85 filter on the lens.

A Real Ice Breaker

The crews are all alerted to ride out to the lake to shoot the "dream sequence" with the young American skaters, but word comes through that the big Mercedes snowplow, sent out onto the lake to smooth the surface, has crashed through the ice. Two more attempts are made, with the same result. The last time is almost disastrous. The snowplow jockeys are saved just as their vehicle is about to head for the bottom of the lake. The ice, which had been perfectly safe a few days before, is clearly too weak to support the snowplow.

What to do?

Herbie calls in and says he's found an outdoor ice rink in a nearby town that might do, and we all go zooming out there and set up cameras. However, it turns out to be less than ideal for a "dream sequence". There is a fence around the rink, but even covering up the Coca Cola signs with Austrian flags doesn't take the curse off it — to say nothing of the extraneous structures which clutter the background.

Tony Maylam, to his credit, has guts enough to scrap the shoot, rather than film something that can never be right.

A search is made for a new and proper location. A few days later the sequence is shot on a flat rink in the magnificent area of Seefeld. There is only a pure white little church in the background. The light is misty and it is snowing softly — a "dream sequence", for sure.

The Arriflex 16SR in Mass Use

I had heard that the 1976 Winter Olympics was to inaugurate the mass use of the long-awaited Arriflex 16SR cameras. A call to my good friend, Horst Bergmann, of Arnold and Richter in Munich, confirms this. "Yes," he tells me. "There are 27 Arriflex 16SR cameras in use at the Innsbruck Olympic Games. Most of these are being used by the Austrian Television Organization (ORF), with others in use by organizations from Germany and England."

Arnold & Richter has set up a complete service center at the central television complex in Innsbruck in order to provide instant service for Arriflex cameras that might break down. The greatest compliment to the Arriflex equipment is that there is an almost total lack of activity at the service center. In other words, nothing is happening there, because cameras are simply not breaking down.

The incredible skiing cameraman "Herbie" Raditschnig skis at top speed down the Downhill run carrying the camera mount of his own design which permits him to get extremely exciting point-of-view footage. In one spellbinding sequence he skis the run alongside famed Austrain champion Karl Schranz to record his technique and reactions.

As an additional service, Arri has set up the equipment for the quick-processing of Agfa Gevachrome 710 and 720, the film stocks being used by the ORF and ABC cameramen.

Later in the week I attend a meeting with the ORF cameramen, in which they are to report on their experiences in using the 16SR. Present from Arnold and Richter, Munich, are Robert "Bobby" Arnold, Horst Bergmann and Erich Kästner, designer of the handsome 16SR. Also present is Volker Bahnemann, Vice President of the Arriflex Company of America.

There are a few minor complaints. Some of the Austrian cameramen don't like the fact that the cameras are equipped to accept American-type daylight loading spools, which have circular as well as square holes and, thus, are limited in interchangeability between feed and takeup chambers of the magazine. Another cameraman mentions a proposed change in the handgrip, which, as it turns out, is already in the works.

Other than that, the cameramen are unanimous in their praise of the 16SR and they warmly thank the Arnold & Richter people for having made available to them such an excellent camera.

Mountaineering Comes in Handy

We are slated to shoot the Ladies' Slalom event, to be held at Axamer Lizum, about 12 miles southwest of Innsbruck. The course, we are told, is extremely steep and icy. Our camera crews will stand no chance of climbing the hill with their equipment, despite the crampons issued to tie onto their boots, nor can Sno-cats be used to run the stuff up the mountain. We glance enviously at the helicopters shuttling gear in for the ABC crews. Our only chance will be to rope the gear down from the chairlift.

Herbie is elected to organize that little chore. He somehow sweet-talks the officials into interrupting chairlift service for an hour so that we can do our thing with the equipment. I ride up in the chair directly behind him, so that I can take pictures. Expert mountaineer that he is, he deftly ropes all of the equipment down into the arms of Austrian Army ski-troopers below. Then, with a flourish, he lowers himself down and flicks the rope loose — strictly against the rules, but by that time he's on the ground.

Meanwhile, mysterious preparations have been in progress at headquarters. Then, one day, I see in the equipment room a pair of jumping skis with 16mm GZAP cameras riveted onto the sides. I get the picture immediately.

"Do you mean to say that you've talked someone into going down the 90-meter ski jump with cameras on his skis?" I ask.

"Looks that way," says Tony Maylam, who could talk a mother bear out of her cubs.

Sure enough, there is a young ski

jumper named Edi Sederer who is either brave or suicidal enough to make the jump with the GZAP cameras on his skis.

I'm not fortunate enough to be there when the footage is shown, but Michael tells me: "The shot from the GZAP cameras down the 90-meter jump is sensational! You see two skis in foreground charging down the ramp. In the background are the snow-covered mountains and the whole of Innsbruck. You see the two Olympic flames. The end of the ramp and thin air approach very fast. He jumps, and into the top of the frame comes the jumper's head. Four seconds later he lands, in what looks like a runaway aircraft landing shot. He shoots up the hill to reveal, again, the flames. Brice Weisman [of ABC] said: 'It's the best shot I've ever seen.' The jumper wouldn't do it again — everybody said he was mad to do it once. But it's a real 'first'."

A True Photo-finish

The day of the Biathlon arrives and all of the camera crews are mustered out, including mine. This strange event — as I've said before, a combination of cross-country skiing and target shooting — requires a spread-out course and is to be held at the beautiful resort area of Seefeld, about 15 miles west and north of Innsbruck.

The main shot I am assigned to get is not at all difficult, but it is an important key shot from the standpoint of content, because it is the only one that will show the contestants bunched up together near the very start of the course. After that they get strung out rapidly and can be seen only in singles or pairs.

I have a good vantage point at the top of a rise which the contestants will have to struggle up before heading off into the woods. A very capable and pleasant young assistant named Steve Barron has been assigned to help me, and he dutifully unloads the camera before being called away to attend to some other matter. When he returns, he discovers that he has left his canvas bag on the seat of the vehicle that delivered him. In the canvas bag are the camera batteries, connecting cables, 85 filters, etc. In short — everything necessary to actually run the camera.

He is distraught because, by now, that vehicle could be miles away. What to do? "Go try and find it," I tell him. "You've got 50 minutes before the start of the event."

He trudges off into the snow, wringing his hands, not knowing which way to head.

Meanwhile, I wait . . . and wait . . . and wait. Finally I hear the Biathlon event being announced, then the starting gun.

I think to myself: "We blew it. There won't be a chance for a second take." I feel very badly about letting the crew down by missing this key shot.

Just then, I look down and see Steve struggling up the snow-covered hill, the canvas bag on his back and the clot of contestants right on his heels, like a pack of bloodhounds snapping at the arse of poor Eliza crossing the ice.

He is just ahead of their skis when, with a superhuman effort, he tries a short cut across the deep snow. He arrives at the top of the rise and, with what may well be his dying breath, throws himself at the foot of the tripod. With a final *beau geste* he plugs in the battery and I turn on the camera just as the contestants enter the frame.

There's no slate and no 85 filter — but the crucial scene is on the film. A "photo-finish" for sure.

The Big Jump

The final athletic event of the 1976 Winter Olympics to be filmed by our crews will be the 90-Meter Ski Jump at Bergisel Hill, where the Opening Ceremony took place. The crews not actively filming are requested, one morning, to go out there and check out facilities and proposed camera positions during the practice jumps that are taking place.

Norman Jewison and I ride out with Tony Maylam, and when we arrive the practice jumping is already in progress. I marvel at the sight of these men soaring off the lip of the jump into the nothingness of thin air, landing gracefully in a classic attitude. What a heady sensation it must be to fly almost literally like a bird — and what balls it must take! And how does one "work up" to such a state of prowess?

The Big Jump, stretching high above us, is an awesome structure. When someone suggests that we climb it "just for the hell of it", I'm secretly not too keen on the idea. I'm not really a "because it's there" type, but rather the kind of skier who likes to climb mountains in a cable car and then let gravity do most of the work of getting me back down. However, I have the gnawing feeling that I won't be able to live with myself unless I climb the goddam thing, so Norman and I begin the long haul to the top. Even though there are steps all

Cameraman David Samuelson sets up shot using the Samcine Inclining Prism, his own patented development, which permits "on-the-ground" angles to be shot by a camera mounted on a hi-hat. In this case, the prism was affixed to the 50mm Panavision lens to shoot dramatic low angles of the Men's Speed Skating event.

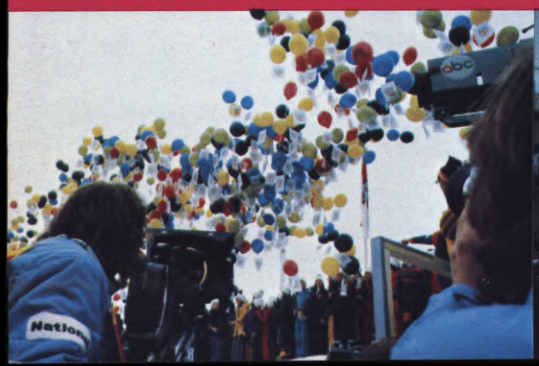
This jolly carrot-nosed snowman, the Official Mascot of the 1976 Winter Olympics, was everywhere to be observed brightening the scene in Innsbruck.

the way (more than 500 of them, I'm told), it's a trudge and a half to get there. The "last mile", so to speak, is the huge tower that culminates in the actual push-off platform. As I look up through the spiralling stairways that must be climbed to get there, someone grumbles: "In Sapporo, at least, they had an elevator in the tower." But there are none of those fripperies here. It's hoof-power all the way. "It's good for the jumpers' legs to have to climb the whole thing," volunteers some "strength-through-joy" type. But they can have my share.

Up on top, huffing and puffing, I decide that the view is almost worth the trudge. I've stood at the top of the Big Jump in Oslo, which is even bigger than this one, but the vista is not nearly so impressive. The long ribbon of packed snow drops down and then soars up again to where the two Olympic Flames burn brightly. In the background is the whole town of Innsbruck, and behind that the solid wall of snow-frosted mountains — a stunning sight.

On the way down we pass files of jumpers stoically climbing their way to the top with their skis on their shoulders. They are curiously silent, expressionless, almost resigned — like automatons responding to the Program. Norman Jewison says that they remind him of the characters in his "ROLLERBALL", and I can certainly

(ABOVE LEFT) An event of great significance was the first mass use of the handsome new Arriflex 16SR camera, with 27 of them being employed by Austrian, German and English cameramen to film the Games. (CENTER) the 16SR at the Opening Ceremony. (RIGHT) Volker Bahnemann, Vice President of Arriflex Company of America, tries the 16SR. (BELOW LEFT) The balloons are released. (CENTER) The ARRI Service Center was empty most of the time, thanks to the trouble-free Arriflex cameras. (RIGHT) ARRI-equipped processing facility for Agfa Gevachrome at the Games.



(LEFT) Atop Patscherkofel Mountain on the day of the Men's Downhill race, the wind was blowing 45 to 50 miles per hour, as evidenced by these flags standing almost straight out. (CENTER) Contestant #59 pushes out of the starting gate for the Men's Downhill. Considered among the most spectacular of events, it was heavily covered by the camera crews. (RIGHT) a colorful hang-glider soars over the Ski Jump.

(ABOVE LEFT) Fans crowd the stands for Men's Speed Skating. (CENTER) Camera crews shoot from behind padding placed to break falls of skaters. (RIGHT) A colorful mural inside the Press Dining Room depicts the excitement of winter sport. (BELOW LEFT) Russian and U.S.A. hockey players mix it up. (CENTER) A speed skater makes that final dash. (RIGHT) An icy day on the Ladies' Slalom run.

note the resemblance.

We watch the jumpers, almost monotonously jumping and landing without incident.

Then — suddenly — something goes terribly wrong. A jumper soars to the lip of the ramp and then — as if suddenly deciding that he doesn't want to go — he almost literally falls apart. Instead of soaring, he spills over the lip in a whirling tangle of arms, legs and skis before dropping to the hill and falling all the way down the steep face of it. At the bottom he lies crumpled and motionless, as an ambulance races out to gather him up.

I'm terribly shaken by the sight. Horror has defiled the beauty of man in flight. I cannot imagine how anyone can survive such a fall, but I hear on the radio later that the man is still alive, though in critical condition.

I pray that he stays alive.

Putting the "Rock" in "White Rock"

A member of YES, the rock group that is to compose and record the score for the film, comes to Innsbruck to spend a few days soaking up the atmosphere of the Games.

He is a colorful, charismatic figure named Patric Moraz — Belgian, I think. Patric is all Gallic fire and fervor, and he speaks of music the way devout types speak of religion. A most likable character, his enthusiasm is contagious.

However, never having heard the music of YES, I have been reserving judgment about the proposed rock score that everyone else seems so high on. After all, there's Rock — and then there's Rock. I'm extremely fond of the really original, innovative kind — but so much of what I've heard is derivative, pedestrian, ultimately monotonous.

Patric, besides being a composer, is the "keyboard artist" of YES. This means that he doesn't simply play anything as ordinary as a piano, but rather a whole range of exotic electronic instruments — Moog Synthesizers and God-knows-what.

One evening he offers to play for us a cassette of the original album he has just finished recording. He explains to us that the percussion was recorded in Brazil, where he maintains a home, and that themes and choral segments were recorded in Europe. Finally the whole thing, consisting of an infinite number of tracks, was blended together in London.

We gather in Michael Samuelson's room to hear the cassette, and I have my doubts as to whether the walls of the venerable Gasthof Krone are ready for this.

What comes out of the speakers is

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among military men in Europe — particularly Scandinavians — for more than half a century. It combines a high degree of skill in two otherwise unrelated sports — skiing and rifle shooting."

We cut to a long lens shot of a cross-country skier heading towards the camera. At first he is a distant figure, often dropping down behind snow ridges and mounds. As he gets closer to the camera, his sweeping arm-movements become more apparent. The YES score builds with the action. (The third theme reflecting Nordic skiing.)

The skier is now on top of the camera. We pan to hold him in frame and by doing so reveal again that we are in a studio with YES playing the music as though 'live' (playback in actuality), with the skier, on film, in motion, on a back-projection screen.

This leads into a stylized sequence — utilizing split-screen and optical effects. The individual members of YES and their music will be closely aligned with the visual appeal of a 'man against the Seefeld terrain'. The music will illustrate the endurance and stamina needed to survive in Olympic-standard Nordic events. The split screen technique will again combine three images all synchronised but totally separate in their form.

The studio sequence, with YES in vision, concludes with Coburn skiing across a deserted white expanse. On his back is a gun, in the style of the biathlete. He is on film and this is projected onto the smaller front-projection unit, positioned just behind the individual members of the band.

We cut to a mid close up of Coburn and track with him skiing as he speaks:

"Of all winter sports, cross-country or Nordic skiing has derived from 'life'. The mountain folk and shepherds — in parts of Norway, Sweden, Finland — even Russia — found that the easiest method of reaching the next village or their flock, was to slide on long skis. The rifle was added to the basic cross-country concept in the military ski-training. And so the 'Biathlon' was established as a sports event, and by 1960 was accepted into the Olympic programme."

We cut to a shot from behind Coburn, as he skis away from camera, up a long winding track and out of frame. His narration will continue over action.

We dissolve to a tracking shot directly in front of an experienced 'biathlete' as he skis through a complex section of the Seefeld Olympic Cross Country course. Across his back is a rifle.

By reversing the shot, to directly behind the skier and at an extremely low angle — and supplementing these two shots with a POV from the biathlete's shoulder — the sharp inclines and dips in the terrain, and the speed at which the skiers cover the snow, can be readily noticed.

Coburn's off-camera narration will explain that peak fitness and dedicated training are essential to reach Olympic standards. The deep, steady breathing, harmonious co-ordination of movement and the will to keep going when there seems many a good reason for pulling out, make cross country skiing a genuine 'tough man's sport', which few women, outside Russia, even attempt.

(As an optional extra — a radio microphone will be placed on the biathlete and synchronised dialogue sections of his 'in motion' comments will be used to further convey the sheer physical effort asserted in the non-shooting sections of the event.)

A gun shot from a starting pistol, cut with a row of bobbing heads will open the Biathlon coverage of the 1976 Winter Olympics.

(The Relay has been chosen in preference to the individual Biathlon because it is felt that the excitement for the non-enthusiast and uninitiated, is probably greater with the former. There is always the strong possibility of two or three biathletes racing for victory at the finish.)

At first the heads are still and tense and looking directly across the frame. As the gun fires they accelerate off the line and pass out right of frame (in slow motion).

A long-lens shot will pick up the five biathletes, off the line, as they converge towards the camera and the single track. Coburn's off-camera narration will explain how important the start of the Biathlon Relay is in world class competition.

The coverage of the Biathlon Relay event will be extensive, the camera positions having been chosen with considerable care to include all the important vantage points. Particular attention will be placed on getting the 'longest focus' lenses into low angle positions, so as to take the viewer on to the course and into the personal struggle of each competitor.

(The majority of television positions are high for wider use of each camera — this flattens out every hill and slope and immediately contradicts what is proposed for the Official Film.)

The Biathlon sequence closes with a free-form montage to YES music, concluding with the finish of the event — the exhaustion of the losers and the exhilaration of the victors. The picture fades to black.

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4. *ICE HOCKEY (Theme — 'AGGRESSION')*

We fade up on a tracking-shot that takes the camera along a narrow corridor and into the dressing room at the Innsbruck Olympic Ice Stadium. Inside a team of ice hockey players are in the final stages of adjusting their gear before a practice session.

Among them is James Coburn — his gear is heavier and more cumbersome than the rest, with protective guards protruding from all parts of his body.

The team file out of the dressing room, with the camera tracking behind Coburn — when they reach the rink, the lights hit the camera and the frame dissolves into a white blaze of colour. The sound comes alive — the reverberated sound that comes from an ice stadium.

The head of Coburn pulls into focus. He is bobbing across the screen, a look of intent concentration on his face. He is playing the role of goalminder in an ice hockey practice session. His head is covered now with full protective gear. The camera is positioned at the far end of the rink, throwing the players between Coburn out of focus. Coburn aggressively blocks shots from attacking players with his body and stick.

We cut to another close up from an angle six feet from Coburn's waist. The camera starts to track back across the ice, to see the whole rink, cutting through players and ice hockey action, in the process. We revert back to a close up on Coburn, as he speaks whilst he continues to stop the lightning pucks that shoot into the goal area.

> "This is the danger position of the fastest team game in sport — the goalminder in ice hockey. My job is to stop the puck passing into this goal mouth — four feet in height, by six feet wide. And let me tell you the puck is hard — five-and-a-half ounces of solid, vulcanized rubber — driven by the top attacking players at over 100 mph. Although I am well protected with knee pads, shin, hip, elbow and shoulder guards, and thick gauntlet-type gloves — the attacks when they come are often brutal. You need not only incredible eyesight and reflexes but a great deal of courage to be good at this job!"

We cut into the action — tight shots of the puck against the stick — a harsh body-check — the screaming mouth of a powerfully-built defense man — a skate cutting the ice in a sudden change of direction. Spot-effects will be laid to match each shot.

Coburn's voice-over will continue over the action, contributing other points of interest relating to the game of ice hockey. The number of players a team is allowed on the ice at the same time, the normal line-up being a goalminder, two defense men, and three forwards — the substitute players remaining on the bench. How the game is divided into three periods — each of twenty minutes actual playing-time with ten-minute intervals whilst the ice is resurfaced. Slow motion techniques will be employed to analyze the finer aspects of the game.

The fourth YES music track breaks the natural effects of the stadium. Intercut with the ice hockey action, we see brief snatch-shots of sticks hitting drum skins; intricate hand-movements on a guitar; hands on a keyboard. Suddenly we are back into the split-screen using a combination of two and three images. The music and track will be established in a free-form movement with the action.

An extreme close up of the Olympic referee and the piercing shriek of his whistle, bring to the end the YES set. The referee-image in the centre third of the split-screen, wipes out the two images either side, and the ice hockey action fills the complete anamorphic-size frame.

This leads into the Ice Hockey final of the 1976 Winter Olympics. The highlights of the match will be condensed to a fast-moving and finely defined game, with camera positions chosen at ice level; over and through the goal mouths; on the substitute benches; high angle 'over the rink' and standard 'master' positions elevated around the play area.

A style of contrasting extreme-action close-ups with wide master-shots coloured by spot-effects to high-light every cut, will be employed. The winners will be seen parading around the outside of the rink acknowledging the crowd with their rightful arrogance.

The camera cuts to the face of one particular defense man — his toothless mouth wide open in celebration. We freeze the action.

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5. *MEN'S DOWNHILL (Theme — 'SPEED')*

We cut to a position midway up the Downhill ski slope at Igls. The camera starts a 90-degree pan across the mountain slope, pulling back off the City of Innsbruck spread out below, and picks up a cable-car steadily moving upward and over the camera.

We cut inside the cable-car to see James Coburn and Jean Claude Killy talking against one side of the car. They are dressed in ski gear and hold skis in their hands. We go into a close-up to hear Killy talking enthusiastically about the techniques of downhill racing. Light is pouring through the window facing them as we pan across the other side of the box-car to see the sharply-sloping terrain dropping away below.

The car reaches the top station and we see Coburn and Killy descend. They continue to talk as they leave the car and walk through camera.

We cut to an extreme close-up of the bottom surface of a ski being waxed. Other extreme angles supplement the shot. The voice of Killy explains the importance of waxing — and the different waxes that are used for different snow-surfaces. We then cut to a wider shot to see Killy waxing his skis with Coburn in the background of a darkened room.

The camera pans across the room and zooms through an open window of blazing light. We cut to an extreme close-up of a ski on the snow with a hand moving down to tighten the bindings. We pan up as the hand leaves the ski to see Killy in full racing-trim preparing for a run — in the background — out of focus — is James Coburn, also on skis.

Killy in the crouched position pushes off from the start gate at the top of the Igls downhill course. We pick him up on a long focus lens as he leaves the start — he speeds down the fast sharp incline of white open snow and heads towards the camera, passing close to it.

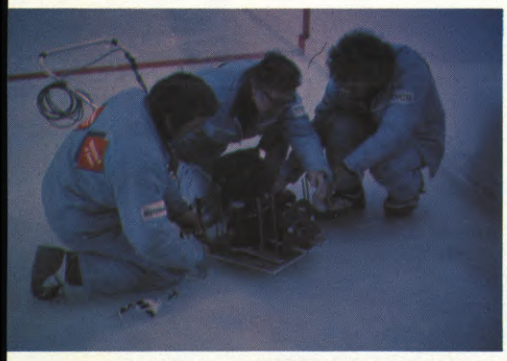
We cut to a POV shot from Killy's eyeline as he races down the fast Olympic course. At first, the natural effects of the skis cutting the hard snow are the only sound. Then Killy's own comments break through as he describes each turn and jump on the course — the speeds he is reaching and how he controls his body over the difficult last one-third, where he is reaching 75 mph.

We pick up Killy from the finishing line as he crouches low, skis under his arms, and passes through camera.

We whip pan to see Coburn standing on the finish slope, a little breathless. He speaks to camera:



The Olympic Rings, with the city of Innsbruck in the background, symbolize well the 1976 Winter Olympic Games, held in this picturesque Austrian city for the second time, the first being 1964. The camera crew finds the structure of the Olympic flame receptacles and the spiral stairway leading to them an irresistible compositional motif.



The film crew sets up the Panavision-adapted Arriflex camera on a special ice skate mount designed and built by Director of Photography Arthur Wooster. A simple mount, it "skates" very smoothly. The mount served very handily for getting unusual angles of the figure skating and ice hockey events.

Actor James Coburn plays an important role in "WHITE ROCK". He is not merely a narrator, but rather a kind of Everyman acting out the Walter Mitty dream of actually participating in the exotic and dangerous sports of the Winter Olympic Games. No mere dilettante actor Coburn comes through as the tough, sincere, down-to-earth person he really is.



A sequence filmed with James Coburn at the very top of the 90-Meter jump gives the viewer some idea of the challenge these men face to soar through the air like birds. Coburn fearlessly went down the Bobsled run, ice skated and skied, getting right into the action. (Photographs on this page courtesy of DENTSU ADVERTISING, LTD., TOKYO.)



"This is the glamorous and most popular event in winter sports — the men's Downhill. A 2,750-metre course from the top of a small mountain to the bottom. It's a matter of skiing to the finish line as quickly as possible, selecting whatever route one favours between certain gates or marker flags. Style is unimportant if you can get the results. The whole object is speed. Jean Claude Killy, who won the Downhill at the 1968 Grenoble Olympics combines style *and* speed — that's what made him so superb. This Downhill course at Igls, overlooking Innsbruck, has a vertical drop of almost 3000 feet — and over the fastest sections the leading Downhill skier will be hitting nearly 75 mph — and that's quick on two skis! Slalom has to combine downhill speed with the ability to change direction between marker gates — and in slalom competition one never has a chance to try the course first."

We cut to a second POV, but instead of the skier on the Downhill, this time he's on the Axamer Lizum slalom course. The lens is wide-angle and the force of the gates being struck is readily noticeable.

The YES track written to colour Alpine Skiing will cut in with the beginning of the shot. The music will build as the skier heads down the slope.

On the next cut (which will be a reverse POV, showing the swerving tracks just behind the skier and the tumbling gates), the frame will split into two halves: one showing the reverse POV and the other a long-lens slow-motion shot with the skier weaving towards camera. The frame will split three ways on the next cut, to include a close-up of a hand on guitar strings.

The pace then quickens, with the split-screen process being used to integrate the music with the action. The YES music will highlight the central theme in Downhill racing and Slalom — speed.

Film coverage of the Downhill and Slalom competition from the 1976 Olympics will use a similar concept as in the Ski Jumping sequence — comparing how and why a medallist scores seconds and points over a competitor from the tail end of the results — where and why technique, experience, and natural ability make their marks.

Split-screen and stop-action techniques will be used to show the precise moments and points on a run where the supreme champion gains advantage over the less-powerful skier. For example, on the Downhill, the best skiers spend less time in the air, when taking a jump; this can be shown effectively by breaking the movement of the jump down through 'stop action' and showing it alongside the same jump taken by the slower competitor.

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6. *FIGURE SKATING (Theme — 'ARTISTRY')*

The sequence is introduced with a close-up of a skate and its blade resting on the ice — toe pointing downwards. Music suddenly breaks the silence and the skate moves into action. The camera slowly tracks back to see a pair skating in unison across the rink of the Innsbruck Olympic Stadium. The camera is ice-level and the stadium is empty. The pair are practicing a full Olympic programme and are skating to their set music which is over-dubbed with original YES track.

A low-angle position from the center of the rink will act as the 'master' with the skating programme happening around the camera. Other low-angle positions will be taken under the more spectacular jumps and action to enhance the 'physical' aspect of skating.

The camera will pass slowly off the pair onto James Coburn crouched down on the ice on the far side of the rink. We cut to a close-up with the pair still skating, diffused, in the background. The camera is at Coburn's eye level.

"Not so long ago, to skate you had to go and wait for a lake or river to freeze in the winter months — how that situation has changed! Mechanically-frozen indoor rinks in congenially-heated buildings like this one at Innsbruck for the 1976 Winter Olympics, are now so accessible that many of the world's best exponents have reached championship class without

ever skating outdoors. That is why there is something rather poetic about taking an Olympic-class figure skating pair and giving them the freedom of a clear lake on a mountaintop to express themselves."

We cut to a lake in the Tyrol of Austria. There is YES music in the air, as the camera pulls focus from a heavily snow-laden branch onto the same Figure Skating Pair as seen in the stadium, undertaking a routine on the lake. They are held on a long-focus lens to isolate the action. The background is diffused and the camera is mounted at ice-level. A feeling of keeping both action and camera constantly moving will be achieved, using long-dissolves to convey the 'dream'-like sequence.

As the routine comes to a close, the camera rises up above the skaters in a crane action to show the complete expanse of the lake and its surroundings. The pan will sweep across and over the highest ridge into the background beyond — and then fade to black.

We cut back to the Innsbruck Ice Stadium. The tannoy introduces Irina Rodnina and Alexander Zaitsev, the World Pairs Figure Skating Champions. The camera pans quickly from the announcer to the center of the rink to hold a close up of the pair. Their chosen music starts on the tannoy system. The coverage will be in depth and complete, allowing the grace and physical artistry of the sport to come through. YES will record over the Russians' chosen music to enhance continuity and enrich the sequence.

Rodnina and Zaitsev conclude their routine. The judges mark them. There is heavy applause from the packed stadium, as the high numbers come up. Rodnina and Zaitsev watch anxiously, surrounded by the complete Russian team. The shots are extremely tight, allowing the viewer to experience those intimate moments before victory or defeat.

The camera pans slowly off Rodnina and Zaitsev's faces, now in complete profile, and still tense from the competition. The pan continues as though one shot onto their faces again as they stand on the Olympic rostrum, to receive their medals. The applause track bridges the two shots and builds to a crescendo as the camera zooms in slowly to Rodnina's face, in extreme close-up.

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7. *BOBSLEIGH AND LUGE (Theme — 'BULLET FORCE')*

The crescendo from the preceding applause-track mixes into the high vibration of bobsled runners riding rock-hard ice. We cut to a 100-degree panning shot of a two-man-bob on the high banking at Igls. A long-lens shot looking over and along the ice-walled trough, picks up the same bob as it comes out of the turn and rockets under the camera.

The voice of James Coburn breaks through the harsh sound-effects and his voice is held over the action.

"This is one of the fastest switchbacks in the world. Just short of one mile of refrigerated tube, costing over 5 million dollars to build and controlled by a vast computer. It is probably the most mechanized sports facility in the world."

We cut to inside the warehouse that houses the gleaming computer — it appears enormous from the low-angle camera — the white-coated engineers are adjusting the timings that set the temperature of the ice. Coburn's off-camera narration continues, briefly explaining how and why such complexity is needed in modern Olympic sport.

The bob and luge tube, perched on specially constructed stilts, winds its way down through the hillside overlooking Igls. It stands out like a modern sculpture against the terrain. The music of YES will lift, to create this feeling of isolation. A score with futuristic overtones — to capture the mechanized and unique events of luge and bobsleigh.

At first there will be no split-screen, but a technique of superimposition will be introduced. Long, sweeping pans and dissolves of this sculptured tube (back-lit to create a feeling of isolation and permanency) will carry the main intensity of the picture. The shots of YES will be photographed for soft tones to blend with the footage from Igls.

The pace will change dramatically as we cut to action footage. Each shot will be photographed for maximum visual impact, to convey the 'bullet force' theme of the sport. A three- and two-image split-screen optical effect will sustain this action, combining the individual members of YES in vision (filmed on the specially-lit-and-constructed studio set) with the bob and luge speed runs.

As the cutting gets quicker, it reaches a natural peak and the music climaxes.

The screen wipes and is filled with the front end of a two-man-bob on the start ramp. Two pairs of feet walk into the right of frame — the camera pans up to see James Coburn and Tony Nash (1964 Innsbruck Olympic two-man-bob gold medallist). They are both dressed for a speed run. Nash is explaining to Coburn how to distribute the body-weight on the high-bank turns.

They take their positions by the bob, with Nash giving final instructions. The runners are warmed against the ice by rocking the sled. Nash gives the command and they charge forward and mount the bob.

We cut to a POV from the front of the bob housing, with a camera affixed inches off the surface of the ice.

Nash speaks above the harsh whistle of the sled cutting the air. He describes the techniques for getting the sled onto the banking and down into the turn for maximum pace. The speed on the main straights . . . and the difficulty of taking the left-hander before the finish.

As the bob comes to a halt, Coburn turns to camera, removes his goggles and rests the front eye-piece over the forehead peak of his helmet. He speaks to camera.

"I have yet to try lugeing. The security of rocketing down a slope like this, behind a former Olympic champion, or as part of a four-man team, is one thing. But sitting astride the skeleton structure of the

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SCENARIO — INNSBRUCK 1976
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luge with no protection and quite *alone* is another. Ironically, in this Austrian Tyrol, lugeing is even older than skiing and it was here in Innsbruck that the luge was included in the Olympics for the first time in 1964. It would be taken as an insult by most Tyroleans not to include lugeing in my list of sporting experiences."

We cut to the top of the run, tracking behind a one-man luge (using a bobsled as the camera-vehicle); the pilot of the luge is James Coburn. On the first high-banking we cut to in front of Coburn and continue the track from a second bob to the end of the run. We freeze the action as he slides into the finish zone.

The actual coverage of the 1976 Winter Olympics Luge, Two and Four-Man Bobsleigh will not be so extensive as other events. It is extremely difficult to film effectively at Igls because the new artificial run that was completed in January, 1975, has a tightly-enclosed aspect (for greater safety) with overlapping walls on all the exciting stretches and corners.

The cameras have to be rigged high and wide, which automatically slows down the action and flattens out the high turns and banking, losing much of the drama of the event from a film viewpoint.

So rather than rely on exceptional 'action' footage taken during actual competition (which will be hard to achieve and sustain for a complete coverage), attention will be focused on the high-excitement film shot prior to the Olympics under controlled circumstances and the remarkable Igls bob run — the 5-million-dollar 'tube' winding its way through the mountains overlooking Innsbruck.

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8. *THE CLOSING CEREMONY*

From close-ups of the winning four-man bob team as they climb off their sled, having set the fastest time, we dissolve through to the same group on the Ice Stadium floor, during the emotional moments of the Closing Ceremony. A slow pull-out will reveal the complete rink, packed with athletes from all the competing nations — chanting, dancing, embracing.

We cut to James Coburn amongst the athletes. He talks informally to camera as he is caught-up in the emotion and excitement.

"I think it is true to say that this ranks among the most moving moments of my life. The atmosphere in this Innsbruck Olympic Stadium, to conclude the 1976 Winter Games, is rather like celebrating Christmas with a long-lost family — the big difference is that the family is, in the true sense of the word, 'multi-national'.

Coburn turns away from the camera and joins in with the emotional athletes, who are exchanging pennants, vests and track suits. The final YES theme score fades in and takes us into the closing title sequence.

The Men's 500 m. Speed Skating Final will be used as the back-drop to the closing titles — low-angle, long-focus lens shots (which will be so effective on the exterior speed-skating rink). Various spectacular falls or overtaking maneuvres from the speeding skaters will be frozen and the final production titles will be superimposed over the chosen frame.

As the final credit fades from the screen, the music will conclude, and the leading skaters will speed across the line for the finish, enhanced by natural effects of the crowd applause.

The final shot of the film will be the winner of the 500 m. Men's Speed Skating receiving his gold medal on the Olympic stand, with the snow-covered mountains of Igls in the distant background. We freeze the action on a close-up of the new Olympic Champion, as his hand raises to the acknowledgement of the crowd. We then fade to black.

FILMING THE OLYMPICS
Continued from Page 441

like nothing any of us have ever heard before — a magnificent melange of Latin beat, baroque mathematics, haunting melody and soaring choral effect. A dozen incongruous musical forms and styles have been superbly synchronized to create an avalanche of almost devastating excitement.

After it's over, none of us can speak for a while — we're busy trying to catch our collective breath. I tell myself that if the score of "WHITE ROCK" is anywhere near as provocative as what we've just heard, it will be a sensation in its own right.

Parting is Such Sweet Sorrow . . .

Inevitably, inexorably the 1976 Winter Olympic Games draw toward their close. None of us are keen to see this special excitement and camaraderie come to an end.

My good friend David Samuelson, who has a succinct way of summing things up, and who is all aglow at having been back in the saddle behind a camera again, says: "From my point of view, it's not only nice to be working as a cameraman again, but very important. Only by actually using the equipment can you appreciate the problems that cameramen have. One has to use the equipment in anger, as it were, to really know how it all works and to keep close to it.

"For example, in using my Inclining Prism to shoot low angles here at the Games, I've discovered that the prism that was designed to cover the 24mm normal lens, is a little bit tight on the 50mm anamorphic. So the next batch I put through will be a little wider and will cover the 50mm anamorphic comfortably."

Both of us, by now Olympic Games veterans, agree that this event was ideal in several ways. "I think that, in general, these games have represented what the Olympics are all about," says David. "There was a total absence of people here to make any sort of a political impression. Those who came were here only because of a deep involvement with winter sport. Back in 1908 Baron Pierre de Coubertim said: 'The most important thing in the Olympic Games is not to win, but to take part.' I really think these 1976 Winter Games have come as close to exemplifying that spirit as any I've seen."

The crew holds its farewell party and, a bit wistfully, we take our leave of one another to head off in separate directions.

When will we all be together again?

Who knows?

Maybe sooner than we think.

Maybe next summer — in Montreal.

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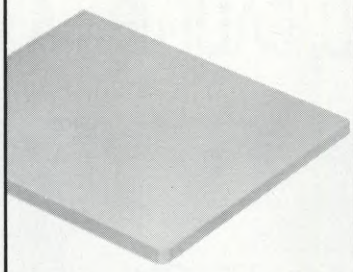

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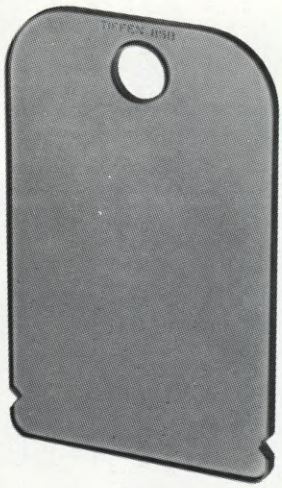

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ABC FILMING
Continued from Page 437

ment of other miscellaneous lenses. Some are prime lenses, but we are working with zooms almost exclusively. We have a 1000mm and a 385mm, which D'Arcy Marsh likes to use a lot and which has turned out to be a pretty good length of prime lens for Alpine coverage. We have some short lenses, like the 5.9mm, which we use for point-of-view shots where you're not particularly bothered by verticals that bend out.

We are using Ronford heads on lightweight legs. We started with regular wooden legs, but found that they didn't work well in the snow. When you put them down in the snow they would either swell or get fouled up in one way or another, and they just weren't sturdy enough for the heavy cameras we have. We also are using O'Connor 50's and one O'Connor 100 head.

We are using a new Agfa stock, Gevachrome 720, which is balanced for 6000°K, and Gevachrome 710, which is balanced for 3200°K. Both stocks are rated at ASA 125.

We've been very pleased with the 720. We've found that when shooting in contrasty, bright sunlight with a front-lit subject, underexposing by a half-stop produces the best results. In diffused soft light, such as the mist or fog of morning, you need to go to even 3/4 of a stop under in order to get a really clean, snappy result.

The 710 is not quite so good. We've had a little bit of trouble with that, but then we almost never encounter a 3200°K light situation. The light inside the ice skating hall is a daylight balance, and we've had some trouble with pulsing when shooting slow motion in there. After running tests, however, we've decided on a 64-frame-per-second rate for the Photosonics, but we have tried shooting at 90 and 100 frames and found that the pulsing was annoying enough to warrant a decision not to use those frame rates. Rene Borisewitz set about rewiring the electronics, trying to get the film rate in phase with the pulse rate of the light, and it almost worked. It certainly improved the result a great deal, but still, I think that for filming something like ice hockey you really wouldn't want to go much faster than 64 frames.

We are editing original and then transferring directly to tape, so we don't have a second shot at retiming and reprinting. It is actually the original that is going on the air, which means that we are in the position of having to be dead spot-on with our exposures. There is very little capability, even with elec-

tronic shading and color correction, to correct for basic mistakes. We have lost some film, I'll be frank to admit — either through being inattentive or through being a little too experimental in a situation where we couldn't afford to be. But I've had the boys run tests in all of the locales where we have been shooting and, in most of the situations, we are fine.

Deep shadows under a huge mountain sometimes can turn into a serious blue problem with Gevachrome 720, but I'd rather have a blue problem and good flesh tones than have a red problem and not be able to correct it at all. Generally, red problems tend to be worse electronically than blue problems. I don't really know why.

Our film is processed at a lab right here in the Television Center at Innsbruck. Everyone processes there. In fact, we are using Agfa Gevachrome stock because it offers the only quick processing available to us. They can get it out in as little ms an hour, but it can take as long as three or four hours during a very busy time.

Unfortunately, since we started shooting here a week before the Games opened, we did a lot of their experimentation for them. We saw them through all the water spots on the film, the cinch marks, the scratches, the bubbles that start to form, and all the other problems encountered in setting up a new lab. Thanks to us and the problems we've had, they're now doing a pretty good job. We really can't complain.

Force-processing is available, but we haven't had to do any of that yet, and I'd rather not. For one thing, it would mean that we'd have to wait until the regular run is through before they could force it for us, and, generally, we've never had that kind of time. For us to shoot during the day and get the stuff back by 6 or 7 p.m. and have it cut by 10 p.m. and ready to screen for a 2:30 a.m. satellite feed means very sharp planning, a lot of speed and no delays. And if we have delays, it means we just don't get the piece on the air.

What happens when footage comes back from the lab is that, if it's sync, picture and sound will be lined up. If not, it will be screened immediately. Generally, if there is a producer or associate producer from that event who knows what it's all about, he will come to me and we will both look at it together. We will evaluate the film in terms of our whole project here and whether it is as good as it should be, and if not why not. We'll talk over plans for putting the footage together and suggestions are made. If the footage is particularly good, I try to make a point

as soon as I can to let the cameramen and others involved know how pleased we are with the results. This is important, because we are all working long hours and everybody appreciates a pat on the back if something comes off especially well. We've had some really great footage from all the people on our staff and it's certainly a pleasure to be able to call them to the backroom to take a look at something that you're really excited about.

Next, the film is cut, and the editing will generally take from an hour to four or five hours. Usually we will lay in some music or effects or, when we transfer it to video tape, we will run a cartridge with a loop for effects, just to add a certain realism. We may do a slow-motion split-screen comparison of two skiers going through a certain section of the course. That's something that can be done electronically very easily, and we have a superb electronic set-up here.

Our problem in events like the Olympic Games is not so much getting good film, but getting it shown on the air. There's only so much air time and the priorities are stacked in favor of the video coverage. We brought over to Innsbruck approximately 45 pieces of edited film. Two we found to be unusable because, in the one case, the athlete failed to qualify for the U.S. team in his sport. The other was the case of a girl skier who hurt her knee in competition the week before the Games. That left us with 43 valid and functional pieces of film. We knew that we couldn't get them all on, but we kept hoping that we would get a fair percentage. What is a fair percentage? Well, 43 is almost exactly the number of telecast hours available, and it's my feeling that if our film pieces average 3 to 3½ minutes each, one piece an hour would not be unrealistic. So far we have not been up to that. We have been averaging more like one piece every two hours. We are limited by the quality of the competition. If the competition is dull, the most exciting coverage in the world cannot make up for that deficiency. If the competition is exciting, then minimal coverage will suffice. Fortunately, we are equipped here to do great coverage on all the sports and we have been fairly consistent, I think, in providing that. Our ratings back home seem to indicate that and we've gotten some very favorable press.

I would like to see more film get on the air, but more has gotten on here than got on at Munich. Obviously, I won't be satisfied until we get it all on. I don't know how well we'll do in Montreal in respect to film, but we'll all be in there trying, you can be sure. ■

HOLLYWOOD MOVIE STUDIOS

Continued from Page 436

Fox Movietone Studio in the "Fox Hills", a West Los Angeles area now known as Century City. It was the showplace of the world, possibly the most modern of all, even equipped with air-conditioning to purify the air on the sound stages. It was, and still is, one of the best equipped and most aesthetically beautiful studios built at the end of the decade, now known as 20th Century-Fox.

Other companies with large eastern financial backing were building new modern studios in the Los Angeles area.

The First National Film Producing Company built a studio in Burbank on a farm, isolated from the center city.

When Warner Brothers found it too confining at their Sunset Blvd. studio, they too looked for a place to expand their production. By the end of the 20's, they had bought out the Vitagraph Company and took over their Prospect and Talmadge St. Studio in East Hollywood. But when the sound era came and Warners was successful with its Vitaphone Sound pictures, First National and Warners eventually merged, giving the Warner Bros. Company three major studios. By 1930, this was one of the most powerful film producing companies in the history of the film industry. In land alone, they controlled three major areas of Los Angeles.

Mack Sennett, who ran his studio on Allesandro Ave. in Edendale, had to expand also. Charles and Al Christie, who were extremely successful in the teens and twenties doing comedy shorts, owned a great deal of land all around the city. With Earl W. Hammons of Educational Pictures, they interested other land developers in offering Mack Sennett a new studio in the San Fernando Valley. The area was named Studio City and by 1928, the Christie Film Company and Mack Sennett Comedies shared their new well-equipped modern studio at 4202 Radford Drive (at Ventura Blvd.) Sennett's cameramen at that time included Vernon Walker, Lee Davis, Earl Stafford and William Williams. By the 1930's, this property became Republic Studios and today it is the CBS Studio Center.

Silent film photography was lucky in that it had inherited the high craft traditions of the late Victorian art photography. Refinement of raw film stock, equipment and lighting, together with the influence of the European cinema, combined to make the motion picture cameramen in the 20's the most expert in the world, especially while working at the well-equipped

studios in Los Angeles. The art of film-making had become sophisticated and complex. The development of the camera itself took a leap forward. It became smaller, more flexible and could be used in a greater variety of ways.

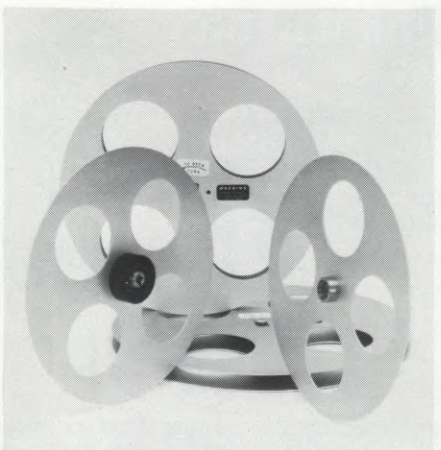
Although the early directors had already used many of the innovative techniques perfected by their cameramen, such as the tracking shot, high angle, insert, close-up, flashback, fade, etc., the 1920's refined and expanded upon them.

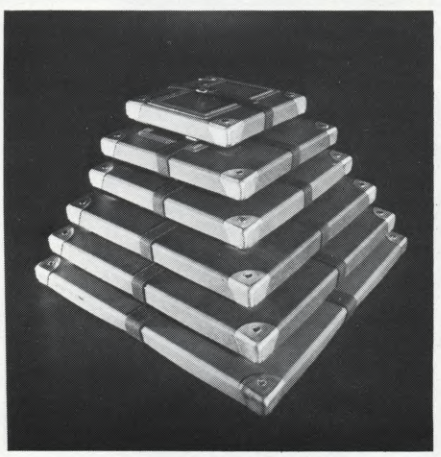
Among the greatest of all the photographers, cameramen and cinematographers working in the studios of the 20's were Charles Rosher, who worked for Mary Pickford, Harold Lloyd and the Horsleys; William Daniels, Garbo's most sympathetic cameraman; Bert Glennon, who shot "HOTEL IMPERIAL"; George Barnes; Gilbert Warrenton, known particularly for his handling of the mobile camera; Joe August, Tony Gaudio, Jackson Rose, Lee Garmes ("DISRAELI"): James Wong Howe ("PETER PAN"), and others who developed and refined the art of motion picture photography.

Back in 1919-20, cameramen had already organized themselves into the American Society of Cinematographers (325 Markham Building, Hollywood) and proudly listed 68 names in their ad, including a statement that "Membership is by invitation only, each man being judged solely upon his record and ability as a cinematographer and his personal fitness as a man".

With the coming of sound, the "ability as a cinematographer" took on even more meaning. The industry had grown from inexperienced young men cranking cameras on open stages, to a complex system of film-making, requiring experienced technicians, working in a sophisticated environment.

When sound and lighting developed into separate technical art forms, it was only natural that the studios should change to accommodate the advanced techniques. Naturally, the cameramen working in these studios would change and advance also. ■





FEATURE CINEMATOGRAPHER
Continued from Page 407

avoided without, in any way, limiting the director. I think it's just a question of sheer lack of knowledge. I would never do that willingly myself. I'm old-fashioned. I believe in doing it right, if one possibly can. I don't mean to say that I'm old-fashioned in the sense that I would say: "You can't do it." I'll have a go at anything — but I like to do it the best possible way.

QUESTION: Originally, on this shoot, the suggestion had been made to leave off the 85 filter outdoors and let the lab correct. How did you feel about that?

CHALLIS: I was 100% against it. I was told when I came on the project that they did that on the last Olympics film and I asked why. They said: "If we had shot with the 85 it would have been left to the discretion of the individual cameraman when to go without." I said: "Well, the answer when you're shooting outside is never to go without." If the film were good in daylight without an 85 filter, the manufacturers would no longer bother to make 85 filters. They would say: "It's a universal stock which can be used over a wide range of color temperatures and you don't have to bother to correct it, because we can do it after processing just as well." This is not the case. Repeat: not. It just isn't true. They can pull it back into line and save a shot which has been photographed the wrong way inadvertently, but the results are not as good. There's no question about this. It's the same attitude that manufacturers have toward forced development. They accept that it can be done and that it can get you out of a hole, but they don't go ahead and tell you to force everything two stops and cut your lighting bills in the studio. If it didn't make any difference they would tell you so — or rate the speed higher and change the development time. It would be to their advantage. We would all welcome a color negative that is two to four times as fast as we have today, and just as grain-free. But that just isn't the case. It isn't as good when you do that, and that's really simply the answer.

QUESTION: Do you yourself ever force the development?

CHALLIS: Surely, when there is no other way around the problem. To seemingly contradict what I've just said about forced development, let me say that last year I photographed a picture for Reader's Digest called "MR.

QUILP". The picture opened with an extensive musical number which was shot in the old ruined and desolate dockside area of London, which we sort of recreated as Dickensian London, and every shot involved really vast areas of night shooting. We really didn't have the capability of rigging it as one would normally, and we were very tight on light, so I decided on a test to force all this material by one stop. I felt that the one area where this hurts least is in night exterior shooting. The results were excellent — indistinguishable from the rest, when cut into the picture, but I don't think this would have been true had I done the same thing on the day sequences, for example, or in high-key sequences. It was an enormous advantage because it halved my key light and I was able to get down to very low levels. It really was a great help to me, but it was done by design and not in a haphazard way. It's like the old concept of model shooting. You can get away with a model if the whole sequence is in model, but as soon as you intercut a model with reality, you're dead — no matter how good the model is. I think the same is true with forcing. I think that if you're going to force something because you have to, then it's better to force the whole sequence and keep it all in the same idiom. It's less likely to do harm. ■

CINEMA WORKSHOP
Continued from Page 378

The Super-16 format increases the width of the frame into the soundtrack area. The resulting .488" width and the full standard height of .295" nets an area of .144 in² at an aspect ratio of 1.66:1. This represents an increase of 47% more image-area over regular 16 cropped for the 1.66:1 ratio. To achieve the 1.85 ratio more popular in this country, the Super-16 frame height must still be cropped, but only to .263" netting an area of .128 in². This represents an increase of 46% more image-area than regular 16 cropped for 1.85 wide screen.

The greatest advantage of Super-16 is realized with a projection ratio of 1.66:1 where the "original-to-screen" magnification ratio will be least, resulting in the best projected image quality. Still, at the 1.85 ratio the Super-16 format offers almost 50% more image area than cropped regular 16mm. In this respect the wide-ratio 16mm format may justify its name "Super".

Super-16 is not just a camera format, but a complete system. Next we will look at camera modifications, raw stocks, available lenses, etc. ■

"WHITE ROCK"
Continued from Page 417

ing which really has nothing to do with the Olympics — aerial stuff to lead us into the subject. The opening sequence is seven minutes long and it's not the Olympics at all, but it leads us into the three or four very stylized shots that we've got of the Opening Ceremony. It sets up the film. I'm a great believer that, in this type of film, if it's not "sold" in the first five minutes, you've lost everything. A lot of the previous Olympic Games films I've seen have been completely and utterly killed for me, as a member of the audience, in the first half-hour. There is always at least 20 minutes of Opening Ceremony, and no matter how beautiful or memorable it may be, there shouldn't be 20 minutes of flags waving and athletes marching up and down and bands playing and dignitaries standing and the lighting of the flame. If you are doing the film for an Olympic Committee or a certain body of people as a record, it's slightly different, but if you are doing the film for the general public, you owe it to them to give them much more than that — and I know that, with our film, after the first five minutes they are going to be blasted out of their seats with stuff the likes of which they've never seen before. It's the most really explosive subjective action footage I've ever seen. And there's no way it could have been rigged.

Let's take the sequence of Coburn steering the two-man Bobsled down the run. I actually had six different setups on the Bobs, with the camera mounted in six different positions, and I had originally planned to intercut them on one or more runs. But I found that it was more effective to do it all in a single shot. You see Coburn mount the bob and go all the way down with the camera on him all the way. He starts speaking and his voice is clear in the beginning, but as they get going fast it starts to break up because of the force of three G's on them. They're going down at 75 miles an hour and he's trying to explain what it's like going through the Carousel, but he just can't speak. You see the expression on his face, as if his cheeks suddenly disappear and his eyes pop out of his head. Then, at the very end, the Bobsled comes to a halt and he says: "Man, that's where it's at. That's the most incredible thing I've ever done in my life!" It's all in one shot that lasts almost two minutes and there's no way it could have been faked, but if you were to start intercutting, people would say: "Oh, yeah, he was only in it at the beginning."

So it was through an accident, really, that we found that the effective way of doing it was to keep the shots totally clean. We've got that kind of footage at the beginning and all the way through and it's the kind of footage which nobody can argue with. There's no way that it could have been done by a stuntman — no way that it could be phoney — no way that it could have been rigged at all. It will set everybody up. You don't have to be interested in the Bobsled to experience the thrill of that sort of thing.

About the release of "WHITE ROCK" — that's still a way off and no final decision has been made, although Michael and I have had long chats about it. It's been my experience that you cannot promote this type of film. In a way, having a sub-title as: "The Official Film of the Olympic Games" is the worst possible thing that can happen to a picture of this kind, as far as I'm concerned. The best thing that could happen would be for it to turn out to be a good film, make sure the right people see it, and for the right word-of-mouth to get out through the trade.

We've got the rock band, YES, going for us, which is possibly the single strongest element. They have an incredible following in America and around the world.

I've shown about 15 minutes of the rough-cut Coburn footage to *Variety* and *Screen International* in London — just those two — but already the word-of-mouth has gotten around that we've got something pretty exceptional.

I have a great friend in California, Bruce Brown, who made a surfing film called "THE ENDLESS SUMMER". He shot it himself in 16mm and hired the theatres and the thing grossed $4 million. There was no way that you could have promoted that film. It was word-of-mouth that did it. That's the only way, in my opinion, that this kind of film can be a success.

The Shueisha Publishing Company of Japan, which is financing the film, owns a tremendous number of newspapers and magazines and also has a very big interest in cinema chains, so in Japan it is going to have a fantastic sort of release. They will promote it very heavily. In America it is being handled by ICM, who will distribute it in the best possible way.

We look for it to be what is called a "sleeper" in the business and to grow through word-of-mouth, because there is no other way that it can be a success. It has to stand on its own two feet and get through to a young audience — because it's the young audience that will get a kick out of this kind of experience. ■

COMMENTS BY FILM-MAKERS

Continued from Page 405

We did some shooting from a helicopter early on. The chill factor sent the temperature well below 30 degrees — so cold, in fact that the pola-screen on the lens shattered. I was filming at the time and saw it go. But the camera and lenses went on working perfectly, even though it was cold enough to shatter the filter. I just can't praise the Panaflex enough.

We had some camera mounts made up for the Bobsled by a local engineer. Unfortunately, we did write off one camera when we started. We didn't quite realize what strong G-forces you get during a Bob run, and even though we put the camera on as solidly as we could, the vibration undid all the screws and the camera came off. One incredible thing was that the 30mm Panavision lens came off with the camera and bounced down the Bob run, but we used it for the rest of the Bob shooting — the same lens. It must have been made of cast iron. The lens had a chip in the corner, but it still worked very well and we used it for the rest of the shooting. Since then we've had a cast-iron casing made for the camera and to hold the lens in position and that camera and lens have been down the run about eight times since and have stood up remarkably well. Mind you, I don't think they'll be very pleased when they get it back in Los Angeles, because it does bend in the middle a little now and then — but it's still giving us very good results.

The skating rig for the Arriflex camera that I've been using in the ice rink is something I made up over Christmas, because we knew we'd have some ice skating things to do. It's been great fun to use and has worked very well. It's really very simple — just a couple of ice skate blades with a little platform on top that we bolt the camera to. They all call it my lawn-mowing machine. For a terribly simple rig, it seems to work very well and is very smooth on the ice. My big problem is keeping up with the hockey players and figure skaters — but the rig skates very well.

One of our real triumphs has been mounting a pair of cameras on jumping skis. We sent ahead and had the mounts built to fit two GZAP cameras to the skis themselves, right by the ankles. I honestly didn't think we'd find somebody to jump with them, but we did. He's been down once and I'm hoping that he'll go down again, because it would be nice to put a little widerangle lens on them. I haven't seen the results of his first run yet, but it should be quite interesting. With any luck, when he's in

the middle of his flight, his body should lean forward and come into the shot, meeting with the skis in a sort of V-shape.

We've been using 35mm Fujicolor negative on this shoot and we've had no problems with it. I've been treating it in the same way I would treat Eastman Color Negative and the Technicolor lab has had no trouble with it either. I had been told that it's slightly slower than the Eastman stock, but we've been rating it at ASA 64 with the 85 filter, and we seem to be printing about right. The only complaint I've had from some of the cameramen is that in very cold weather the tape that Fuji uses to tape their film tins won't come off. You have to chip it off. So maybe if Fuji could change that it would be nice.

We've only had ten camera crews working on these Winter Games, as compared to the scores of crews used on the Summer Games at Mexico City and Munich, but it's worked out very well. We've really chosen our positions more carefully and haven't tried to saturate the events with coverage, which means that we've really been shooting in a more highly controlled way. Tony Maylam is the type of director who likes to control things specifically. Obviously, he can't control each man when he's out shooting, but I think the fact that he hasn't had too many cameras has helped him keep a much tighter control on the type of shooting he wants. I don't think it's been a bad thing at all to have fewer crews. In fact, I think it's been a better idea really.

Probably the hardest event to shoot, because of the sheer physical exertion involved, has been the 90-Meter Ski Jump. All of that walking and carrying of equipment to the top of the run have been very hard on the fellows. Even though there are steps going all the way to the top (more than 500) and you don't have to ski into position, it's still a very tough one to get around on. John Palmer has been on that project for the last two or three days and doing a magnificent job. He's been putting cameras all over the place — on the lip of the jump and on the sides and he seems to be getting on very well with the officials.

The boys did haul a dolly up to the top of the 90-Meter jump one day — not the Elemack, but an ordinary little location dolly. They weren't too keen on the idea at first, but they were finally quite happy to get it up there because the shot was well worthwhile. Getting the dolly and track to the top was a hard slog, because we really don't have the crew for that sort of thing. But everyone pitched in to help. Even Coburn did some humping of equipment

that day.

For me personally the Men's Downhill was a very exciting event to film, because Herbie Raditschnig was running that one and I spent a lot of time skiing with him. He taught me a lot about skiing and improved it a lot, which was fantastic. He's an awfully nice person to work with — just delightful.

I did have one nasty moment on that one, however. We were having a rehearsal of the Downhill during a practice session. We'd gotten all the cameras into position and Herbie and I decided to ski down and check all the positions on the way down. Each time a skier came down the course we'd let him go by and then, as soon as he'd passed, we'd ski across to the next position before the next one came. I think there was an interval of 30 seconds between each one. Herbie, of course, skis better than most of the racers and he was just shooting off and I was trying to follow him. We came to one icy piece and I slipped straightaway and just went and went and went. I was sliding on my back and looking up to make sure no one was coming, when a couple of officials grabbed me and pulled me to one side. That was a bit hairy, I must say, but it was good fun doing the Downhill, because I got a lot of skiing in on that one.

We have a super bunch of lads on this shoot. On jobs like this it's rather like a cameramen's reunion. You meet up with all your old friends and it's super to have the opportunity. It's the only time we ever really get together and I love it. It's so nice to meet up with your friends again and it's very good from the work standpoint, as well, because immediately you know you've got people you can trust. You've worked with them in the past and you are sure of their capabilities. It's wonderful to know that if you want something done, it's going to be done right. ■

AT THE NERVE CENTER By
DRUMMOND CHALLIS
Associate Producer

My responsiblity on this shoot boils down to one word: Organization. Obviously, Michael Samuelson had done a fair amount of that back in England, but in Innsbruck I've done all the arranging for transport, and procuring of vehicles from Toyota, the booking of hotel accommodations and all the liaison with the Austrian side of the unit and with the Austrian Olympic Committee. I've also been involved with the organization of camera positions, al-

though Michael, Arthur Wooster and Tony Maylam laid the groundwork on certain reconnaissance trips a year ago. They came back to England and gave me the details and I went out to Innsbruck and put it into practice. I skied all the courses with the officials and organized the positions and the building of rostrums.

As I see it, the main difference between this shoot and the one at Munich is that we have a set program, a plan. We're not rushing around filming everything — and that makes things a lot easier. Obviously, there are day-to-day changes and little bits and pieces that we add, but we're basically executing the original plan we put together. That means that I know exactly what events we'll be covering tomorrow and where the cameras are going to be.

We've had less time to prepare this project and a pretty small budget in comparison to Munich, so I've had to keep a very careful eye on expenditures everywhere. I don't think we've got any deadwood at all. Everyone's got a job to do — if not two or three jobs — and that goes for everybody from the Producer on down. They're all mucking in, doing a bit of everything.

I think the most difficult problem — again, in comparison to Munich — is the movement of crews. Obviously, only a few of us ski, and skiing has been an essential for certain events in Innsbruck. There are times when it would be a great help if people could move across the snow on skis. Also, we've got more to carry, because Panavision equipment is heavier than standard 35mm gear. That's been the main sort of bugbear, and it's very difficult on something like the Downhill, when you don't have five or six rat-tracks at your disposal, or the Ladies' Slalom, where a rat-track wouldn't have been able to get up the icy slope. We had to do the equipment unloading operation from the chairlift at the last moment, because Plan A (which involved sending the equipment down in sleds with the Austrian Army) would have been unsafe. ABC tried moving in some of their television equipment by roping it together and hauling it to a position on top by helicopter. However, the skiers couldn't bring it down into position because the mountain was sheet ice. That sort of thing has been our main problem — and at times we could do with another dozen people.

Our equipment has stood up surprisingly well. The weather has been on our side lately, but earlier on it was much colder and there were some inconveniences. Certain bits of the equipment had been winterized, but not all of it. Even so, we haven't had any

real problems with the equipment. We haven't had a single camera that has missed a beat.

Getting film processed so that you can see your rushes is always difficult on a shoot like this. Obviously, it's nice to be able to see your rushes — as we're all used to — on the following day, but there's hardly time to look at them here. We leave at six in the morning and don't get back until fairly late. Also, although we've got projection facilities here, they're not first-rate. Ironically, on a shoot like this, once you've filmed an event, or there's a hair in the gate, there's nothing you can do about it. We've been sending film back to London every two or three days and then bringing rushes back to look at here and that seems to be working out quite well.

I think that, on the whole, it was a correct decision to have our processing done in England. Technicolor London is the most experienced laboratory in Europe, as far as processing Fujicolor is concerned. I produced a picture in Fujicolor last year, had it processed at Technicolor and got excellent results. They've handled a lot of it. On the other hand, I've shot Fujicolor and sent it to other labs in England and been very disappointed. The laboratory people always turn around to you and say: "Well, that's due to the film stock, not to us." Personally, I don't think that's true. Fuji is not the same as Eastman, obviously, but if it's handled in the right way I think you can get excellent results with it.

As it is now, all of our negative is in England, where it will be cut. Obviously, you can get a much better deal out of a laboratory if they are also going to do the post-production.

As I said before, this is a very much smaller operation than Munich and we haven't got as many crews, but we've got a good cross-section of different types of experience. We've got Arthur Wooster, who's done several Olympics before — and Tony Coggans, who's been on three. He's a younger cameraman and very aggressive. Then there's my father, Chris Challis, who was brought over mainly for the ice stadium stuff and the lighting that's involved in that. And there's John Palmer, who's an excellent feature operator. He's been doing all the difficult operating on gear heads and what have you, whenever we've needed that. Herbie Raditschnig is, I think, the best of the ski cameramen, as well as being a wonderful organizer. If you need something in a hurry, like climbing ropes or crampons, he makes a phone call and you've got it within 15 minutes. Atze Glaner comes from Munich and was very suc-

cessful on the Munich Olympic Games. It's certainly paid off enormously to have these two local people to help us. We've got with us Ron Collins, who was in Mexico and Munich and who has done the last three or four World Cup films with Michael. He is considered to be one of the best long-lens men in England and is also very much of a one-man-band. He pulls his own focus very well, and that's why he's been given the 2000mm Panavision lens to shoot. On sound we've got Clive Winter and Peter Desbois, both of whom were in Munich.

All in all, though we've got a small unit, we've got a very wide cross-section and we've got no dead wood — which is very important on an operation of this size. You need a crew who, when given a job, go out and get the best footage they can. Sometimes it isn't what the director has asked for, because something unforeseen has made that impossible, but they've gone out and shot something else that, in some cases, is even better.

We've done a lot of rig shots and I think they've paid off. On the Bob run we had five or six different rigs and we sent Panavision cameras down in positions that cameras had never assumed on a Bob run before — and successfully. The rushes are incredibly good, considering the difficulties. Today we sent two cameras down the 90-meter ski jump on skis and I think the footage will be sensational.

The little ice skate rig which Arthur Wooster designed and built has proved to be very successful. Without this sort of thought and the building of such rigs it would be very difficult to get 35mm cameras into the midst of the action. It's much easier with 16 mm. It's smaller and you can hand-hold it better. Whereas, I think that with 35mm Panavision you need a better camera platform in the form of a rig. The format demands quality. You can't have wobbly scope on wide-screen Panavision. It just doesn't look right. My own personal feeling is that these rigs have played an essential role in shooting this picture successfully in Panavision anamorphic. They're very important in getting the camera into the action and really adding to the excitement of the coverage. To my knowledge, this has never been done before to the extent that it has been done in Innsbruck. If you see a skier flash by you haven't got time to explain to people what's involved. But if you put a camera in his position, it lets you see within the first 20 feet what is actually going on. That's why such shots are very, very exciting and will play an enormous part in this film. ■

A PRODUCER'S VIEW
Continued from Page 401

they like to see?" We've attempted to produce a *theatrical* sports film. The audience is mainly a young audience, so the music in the film will be of tremendous importance. The British rock band, YES, is creating an original score, and quite a bit of the time we will be cutting our pictures to fit their music, rather than the music to fit the pictures.

James Coburn has been with us filming for 16 days, and he does what I describe as a sort of "Walter Mitty" turn in which he does what you and I, who are frustrated sportsmen, would like to do — such as having a go in the ice hockey goal keeper's net, with an Olympic team firing pucks at you. He goes down the Bobsled run and tries his luck on skis and he does it very, very well. I think he does an excellent job of describing and explaining the problems of the various sports.

Another element that sets our film apart is the fact we are shooting it in Panavision anamorphic — the Big Time of film formats. This is the first Olympics film ever to be filmed in Panavision anamorphic. Besides giving us literally wider scope in the portrayal of the various sports, this expansive format does full justice to the beauty of the Austrian alps.

As far as personnel are concerned, we are using a much smaller crew here because Tony Maylam, the director, knows exactly what he wants. We're not attempting to do what television does — which is to film everything. That's pretty much what we've done on previous Summer Olympics, but this time we are selecting only one event from each type of sport and then putting all of our crews onto that one event for one or two days. In that way we will get excellent coverage on the days that we will need it.

The Winter Olympics have their own special problems, which I was previously unaware of — such as trying to get cameras into positions halfway down glaciers, but the cooperation which we have received from the Organizing Committee has been fantastic. In one case, two hours before the Ladies' Slalom commenced, they stopped the chair lift for an hour, so that our cameras could be lowered from the chairs down into their positions. The Austrians certainly have been very keen to help us produce an exciting film, and they've given us every bit of cooperation that we've asked for.

As for the Panavision anamorphic format, it's obviously quite new for some of the cameramen on our crew, but they've all found it the perfect

shape for sports coverage. This lovely wide-screen aspect ratio permits you to have contestants running through your frame from left to right for a full sweep, or you can have two people in the frame at one time. It's absolutely the ideal format for filming sports action.

As far as the camera and sound crews are concerned, I've got very much my own team with me, veterans now of the last six major sports events of the world. I've added to that team Christopher Challis, BSC and John Palmer because of their experience with Panavision and because this time we are making a theatrical film. I felt that we just wanted a top Director of Photography with us amongst the 2000mm boys. Chris has fitted in beautifully. He had a very special "grip" for about a week — Director Norman Jewison, who happened to be in Innsbruck and was willing to do just about anything to attend the Games. He certainly did his share of carrying cases up mountains. Having people like Chris and Norman with us has improved the morale and pride of the unit. It's a very happy unit.

We have on our team several cameramen who are experts in the use of long lenses. We've got a very special 2000mm Panavision lens here which Ron Collins has been looking after, and the idea is that with a lens as long as that you're bound to get some shots that television can't afford to attempt to get, the reason being that a certain percentage of what's shot will be out of focus. In fact, we had a meeting the other morning in which we said that if 50% of the shots weren't out of frame or out of focus, the cameramen weren't trying. We don't want our cameramen to play it safe. We want them to go for their shots and we accept the fact that if they are going for exciting footage, trying to hold skiers in full or half figure who are sometimes traveling at 120 miles an hour, they are occasionally bound to lose them in the frame or lose focus. But if half the shots they do are in frame and in focus, these will be very exciting shots. We use various expressions such as: "Go for broke!", "Go get 'em!" and "Don't play it safe!" — and none of these cameramen are here because I think they will play it safe. They are here because I think they will get the exciting shots. The television people can't afford to take such a gamble, because their out-of-focus shots will be seen on the air by millions of people, whereas our out-of-focus shots will hit the cutting room floor. That's a big difference between film coverage of sports and live television coverage of sports.

Our filming equipment obviously had

to be winterized for this shoot, but the Panaflex has proved to be the ideal camera for shooting in the Austrian alps at many degrees below zero. Its built-in heating systems run on comparatively small batteries and the fact that the camera is self-blimped and so light in weight makes life much easier for climbing. You simply put it on your back and away you go. All the cameramen have been issued haversacks, because that's the only way to get cameras up some of the glaciers where we have been filming — but, of course, 35mm anamorphic lenses and batteries to run the 35mm cameras are all heavier than you would use for 16mm and this has caused big problems relative to getting equipment in and out. The ORF (Austrian Television) people have had helicopters flying all about, but they cost $800 an hour to hire. That's all right if you have an open-ended television budget, but the budget we are making this film on certainly doesn't include that kind of money. The result is that every one of our cameras has had to be lifted and carried in by hand. Some of our cameramen have been able to ski down the mountainside clutching cameras. For example, we have with us the fabulous Austrian cameraman, Herbie Raditschnig, who has proved invaluable. He frequently just picks up a camera with its zoom lens and tripod and goes skiing down the downhill course. He presents it to you when you get down there an hour and a half later. He has been a tremendous help.

One of the significant differences in the Winter Olympics is the fact that there are only seven sports: downhill skiing, cross-country skiing, figure skating, ice hockey, speed skating, ski jumping and bobsledding — and I think that the Olympics are better for fewer sports. Certainly, it has allowed us to concentrate much more on the sports that there are. They're all very thrilling sports and, with the exception of cross-country skiing, they're all fantastically fast. Because of the speed of the events, we have totally overestimated the amount of film stock we would need to cover these Games. You can stand alongside the bobsled run for an hour and shoot every bob that goes by. Then you look at the footage counter on your camera and think to yourself: "My God, I've had a camera jam!" — because the indicator hasn't moved from 400 feet. Each shot is maybe two seconds long.

We've had, of course, to get everyone on our crew very warm clothing, because sometimes we have to be in our camera positions four or five hours before the event. If we didn't have warm clothing we could freeze to death. Also,

we've issue spikes or crampons to fit onto the boots of those who don't ski.

I always like my sports filmed from the ground, because that's where you really get the feeling that you are participating in a sport and are not just a spectator — which is what you become when you are filming from up high. Getting such low angles in the ice stadium has proved very, very difficult, because you have those big wide boards all around the sides so that the hockey players can bump into them without ending up in the crowd. We negotiated a camera position near the penalty box of the ice hockey where we could wheel the Panaflex in at the very last moment to film the figure skating. However, there were VIP's with tickets for seats absolutely adjacent to the gate, and when we first said that we wanted to put a camera there they told us we couldn't, because the magazine would be much too high and the spectators wouldn't be able to see over it. Arthur Wooster had the inspired idea of wheeling the Panaflex out and bringing it back in with the magazine rear-mounted. That clinched it. Had it not been for that rear-mounting facility of the Panaflex magazine, we never could have gotten a low-angle shot two feet above the ice in the Olympic Stadium.

We are using 35mm Fujicolor on this shoot, because we feel that it is not as contrasty as the Kodak stock. With all the ice and snow around we felt that it would give us softer colors. The tests we've done on it are very exciting and everyone is happy with the stock.

As I mentioned before, one of our big problems has been getting cameras up ice-covered mountains. I must say that my own camera position was made not only for a mountain goat, but a mountain goat that could ski. We have two or three four-wheel-drive vehicles, Toyotas and Landcruisers, which have proved absolutely invaluable, because not only do they have the four-wheel drive facility (which, with chains, permits them to go up just about any mountain), but they have winches on the front.

We very nearly had a fatal accident one day when one of the Landcruisers slid 25 yards down a glacier and came to rest with a very, very white-faced driver praying because only three wheels were now on the ground. The fourth one was hanging over the edge of a sheer drop. Everybody yelled at him not to move and to sit still. His cameraman had noticed that there was a winch on the front of the vehicle, but they didn't know whether it was a power or electric winch. He had to pass the instruction book out the window to them so that they could work out how to

winch him back to safety. Without that winch on the front, nobody would have had an idea how to get the vehicle back up the mountainside.

Later they lowered all their camera gear down to their position, which was on the steepest slope of the downhill, using their winch and then winched everything back up again afterward. It was a great advertisement for Samcine Rigidised Cases, because one of the High-Speed Mitchells (being run off two 12-volt car batteries, with two more batteries as reserve supply) came sliding up the mountainside like a sort of mother hen, followed by five not-so-little babies. The Mitchell case had a string around one handle, which was attached to the winch, and each other piece was attached by a one-foot piece of rope. All six items of equipment were being pulled up by that first handle. I don't think many cases could have been abused to that extent and still survived. Our equipment has stood up incredibly well, all in all. We have had a fair amount of walkie-talkie problems because of batteries going flat in extremely low temperatures. Cameramen tend to put them down on the ice at -20° and then are very surprised when the batteries go flat. We've had a main radio station at headquarters, which has proved invaluable, because it has enabled us to speak from pretty well any event direct to the office. The main transmitter/receiver (affectionately known by the crews as "Sam Mother") is as good as she is because we brought along a 25-foot pump-up aerial.

In talking about our team, Number One, of course, is Arthur Wooster, who is Director of Photography on the film. He has been in Innsbruck for eight weeks and was responsible for all of the James Coburn filming. Just as in Mexico City and Munich, he worked out all the details of not only how to photograph the various events, but how to get the equipment to and from the locations. He knows exactly what lenses everyone should have and his ability to perceive the details required in a movement of 16 cameras in and out of a very difficult location is fantastic. Add to that the fact that he skis and skates very well. When we shot special footage with the Russian figure skating champions, Irina Rodnina and Alexander Zaitsev, Arthur was on skates with his camera also on skates and the result was pure magic. I think he discovered that he wasn't quite as good a skater as the Olympic Gold Medalist champions, but he was willing to have a go and it's been marvelous having him on the job. I'm sure that by now there can be no more experienced Director of Photography

for sports filming than Arthur Wooster.

In Munich we made the decision to shoot the entire Games without 85 filters. There were several reasons. For one, we were using a lot of long lenses and high-speed cameras, which meant that we were frequently short of light. Also, very often when we were working in the Stadium, we would go straight from daylight through into the artificial light of evening. We questioned whether we should do the same thing in Innsbruck and decided that there was not enough to gain to compensate for the possible problems of omitting the 85 filter. Obviously, also, we were shooting in a lot of snow, which tends to go very blue anyhow — so we decided to shoot always with 85 filters on exteriors.

Similarly, we made tests before the Games to see if we should force-develop. It is interesting that the manufacturers of both Fujicolor and Kodak color negatives recommend that you do *not* force-develop, but let the latitude of the film take care of any underexposure. I must say that, certainly up to two stops underexposed, it looks better not force-developed than it does force-developed.

One of the nice things about these jobs, and the reason that I enjoy them every other year, is the team spirit one catches from being part of an operation such as this. We are all staying in the little village of Sistrans, which may have 20 houses maximum and two tiny hotels. The film crew has taken over every accommodation in the village, some 30 rooms, and Sistrans has become the Hollywood of Austria. It has turned into something of a tourist attraction and four policemen have been assigned permanently to direct traffic and help park our vehicles.

We have set up headquarters in the largest hotel, the Gasthof Krone (which, I suppose, is all of half a star) and we store our equipment in their enormous ballroom where, once a month, they hold their Fireman's Ball. It has become quite the entertainment for the locals to stand outside the windows of the ballroom and watch the crazy film units at work.

Mentioning again the team spirit I was speaking of, we have, in fact, about 40 people from London who are over here working for ABC as cameramen, editors and the like, and they are often here with us. There is quite a bit of competitive spirit, not only in the coverage, but in the local social life, as well. I always say that my teams work hard and play hard and it's difficult to tell where there's the keener competition. In any event, I'm sure it will all end up in a good picture and a lot of fun. ■

IMPROVED PAR SYSTEM

Continued from Page 431

the SUN-SCOUT 650.

CONCLUSION

For the past decade the daylight-corrected PAR lamp system has been a definite need. The daylight correction has not always been satisfactory, and the lamp replacement cost has been high. A new system, SUN-SCOUT 650 is now available which is economical to operate and constant in color quality. It also greatly reduces the radiant heat in the light beam. It has a high-intensity narrow beam which compares favorably with the much larger 1000 watt PAR lamp. This new system, therefore, provides many benefits and overcomes many previous problems in the compact PAR light system.

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For further information, contact: Art Bodkins Optics, 77 Summer Street, Boston, Mass. 02110. Telephone: (617) 542-1944. Cable address: BODKINS. ■

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STUDIO PRODUCTION EQUIP.

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FILM STOCK, 35mm. Will consider all types. Sealed, opened and ends. RAFIQUE, 814 Broadway, New York, NY 10003 (212) 228-2757.

32mm Cooke lenses. Contact Pat Singh, ALAN GORDON ENTERPRISES, 1430 Cahuenga Blvd., Hollywood, CA 90028. (213) 466-3561.

WANTED — Film Stock 16/35mm — ends and new — top price — RAW STOCK CENTER — Call Collect (212) 679-1218.

RAW STOCK FILM NEEDED. Highest cash paid for 16 or 35mm color negative or reversal film, including any EF (7242) mag. stripe. B&W reversal also wanted. FILMEX, (Filmbrokers) (416) 964-7415 collect.

WANTED ACL 200' Mag, 12-240 Angenieux Zoom. (717) 424-4025. Box 8, Del Wat Gap, PA 18327.

WANTED: Professional motion picture equipment, 16mm and 35mm, cameras, lenses, lights, sound, editing, projection, lab, for outright purchase or consignment. Supply complete technical description and price for immediate reply. Ted Lane, ALAN GORDON ENTERPRISES INC., 1430 Cahuenga, Hollywood, CA 90028 (213) 466-3561.

IF YOU WANT TO SELL YOUR EQUIPMENT THIS SHOULD MAKE SENSE

Place it on consignment with F&B/CECO — where hundreds of shoppers visit our New York and Hollywood showrooms every day. Our used equipment price lists are mailed to over 30,000 potential buyers. We'll get your price for it, and even arrange a cash advance if you require it. Remember, our sales total over $6 million yearly — we sell more used equipment than any other dealers. In the east call HY ROTH in New York, (212) 586-1420. In the west, call BOB KAPLAN at (213) 466-9361. F&B/CECO, 315 W. 43 St., New York, NY 10028 and 7051 Santa Monica, Hollywood, CA 90038.

RATES: Ads set in lightface type 50¢ per word. Minimum ad, $5.00. Text set in lightface capital letters (except 1st word and advertiser's name) 60¢ per word. Modified display format (text set in **boldface** type, capitals or upper and lower case) $5.00 per line. Send copy with remittance to covepayment to Editorial Office, American Cinematographer, P. O. Box 2230, Hollywood California 90028. Forms close 1st of month preceding date of issue.

RENTAL

CINEMONTA & Steenbeck rentals delivered to your premises. KLM ASSOC., INC., West Coast (213) 931-6151, East Coast (301) 299-7259.

1976 Rental Catalog available .... Production equipment at sensible prices. For more information on rentals, sales or service write: CINELEASE, INC., 209B Old Durham Road., Killingworth, CT 06417 or call (203) 663-2222.

NAGRAS for rent. Nagra IV-L, QSLI, crystal, $85 a week, $225 a month. Nagra III, with crystal, $50 a week, $150 a month — call (212) 548-1439.

KEM rentals in Hollywood. HORIZONTAL EDITING STUDIOS (213) 461-4643.

SERVICES AVAILABLE

TRANSFERRING, resolving to 16mm fullcoat $15/Hr. Write for complete price list. WALKER PRODUCTIONS, Box 161, Cave Creek, AZ 85331.

FILMMAKER AVAILABLE. June-August, Boston area for production. Experience in Industrial, Public Relations, Entertainment, Advertising. Reel of award winning films available. Call PETER (617) 861-0210.

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HOWE TRIBUTE

Continued from Page 370

pute to that statement is the time element; we now must add the intervening years and update it to read "fifty-five years".

Jimmy received his first Oscar for his black and white photography of "Rose Tattoo" in 1955 and another for "Hud" in 1963; he has been nominated seven times.

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Roy Clark, Howe's assistant, also showed up to honor his boss and we won't even begin to list the pictures they have done together. ■

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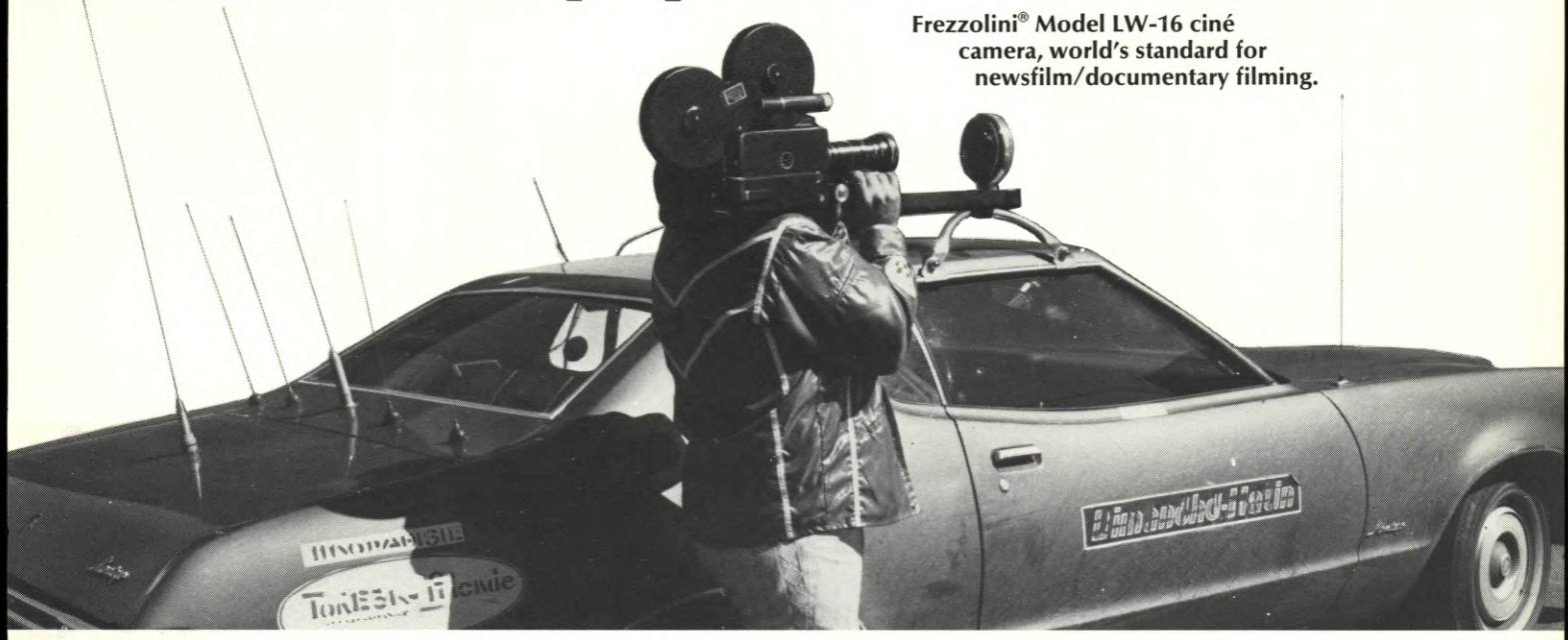

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