

## SMPTE Hollywood Section Presents a Tutorial Seminar on Production Lighting Techniques

By Laurence J. Roberts

On Saturday, May 21, 1983, at Universal City Studios, the Hollywood Section of the SMPTE presented their Spring Tutorial Seminar on Production Lighting Techniques. The sold-out event was a success by all estimations, and has now led to planning for similar events as a regular part of the schedule for the large Hollywood Section. Over 500 people, from students to industry professionals, attended and participated in the all-day event, held at Universal's vast Stages 31, 42, and 43.

In his opening remarks, Howard T. La Zare of Consolidated Film Industries, Seminar Committee Chairman, remarked: "There is probably no other city in the world that could present a tutorial seminar of this nature and magnitude." He continued that the Seminar Committee "was extremely fortunate to have obtained the voluntary services of many professional people, most of whom have been working on this project for six months."

Mr. La Zare introduced Harold Eady, SMPTE Executive Vice-President, who added that "The SMPTE is now on the threshold of a new era for conferences. This hopefully will be only the first of major seminars in the Hollywood area, as this area is the ideal platform for yearly conferences and seminars." Eady added that La Zare and his hard-working committee were mainly responsible for the event getting off the ground. La Zare then gave credit for the original "germ" of the idea to Ed Phillips of Matthews Studio Equipment and Richard Glickman.

Although the seminar was scheduled to begin at 9:00 a.m., registration

began at 8:00 a.m. As early as 6:00 a.m. that Saturday, volunteers and some of the speakers and participants were arriving at Universal Studios to do last minute touching-up of details. Many had spent the previous several weeks arranging for sets, lighting equipment, etc., to be ready, and for

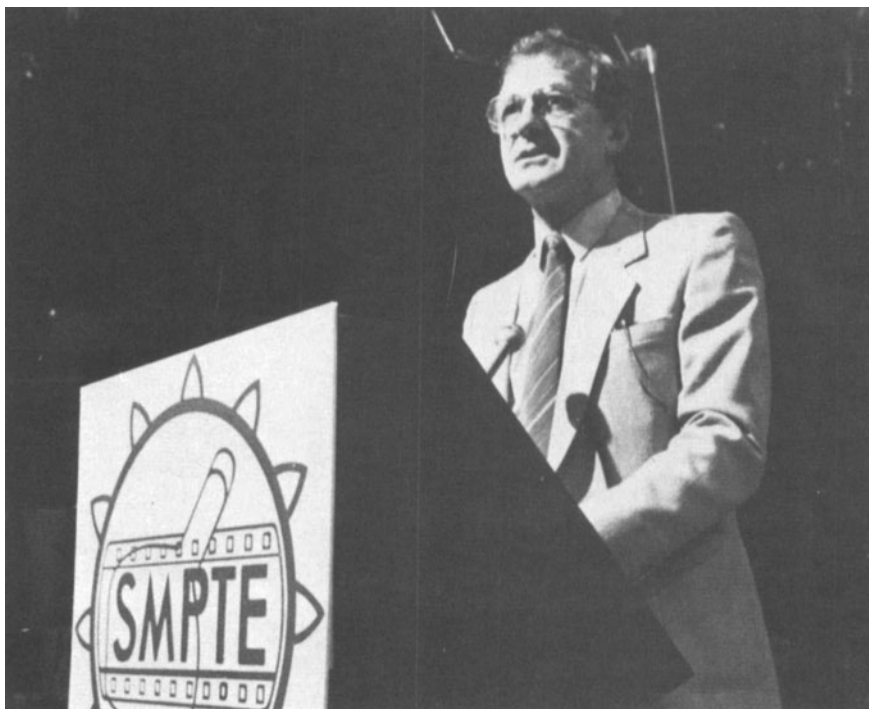


Howard T. La Zare, Seminar Committee Chairman.

the studio volunteers to have the proper sets in place.

Stage 31 was to be used for the equipment displays, and Stages 42 and 43, which Universal regularly used for the production of shows that had live studio audiences (and therefore had the requisite bleachers-on-wheels in place) would be used for the seminar itself. Each of two stages (42 and 43) was used for two "sets," each speaker having his own, so that in the morning session one audience would attend the program on Stage 42 (with its two speaker/cinematographers), and the other audience would attend the program on Stage 43. After lunch, the two audiences would merely change stages.

Between the two stages, in the city-street-wide alley, was the area set aside for displaying the lighting technique used for lighting the interior of an automobile. A short walk away was Stage 31 and the equipment displays. Thus, each person was able to attend all four complete presentations, plus



SMPTE Executive Vice-President Harold Eady addresses the seminar participants.

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Howard La Zare giving the opening remarks.

the between-stage presentation of car-lighting techniques, and the equipment displays. It was all very well planned, very well conceived, and ran without a hitch, which was somewhat of a surprise, considering the size and complexity of the logistics involved.

The same equipment was used on both stages, with one set on each stage using Panavision Panacam video cameras, and the other set on each stage using Ikegami EC-35 cameras. The entire seminar was videotaped on all four sets with Sony BVP-330A cameras. Full Hollywood studio union crews were used, both to assist the speakers and the crews that videotaped the seminar.

Because the aim of the seminar was to show film production lighting techniques, electronic cinematography-type video cameras were used, so that the audience could view, on the large color video monitors overhead, the results of the techniques that were being illustrated and described "live" in front of them. To actually use 35-mm film cameras would have defeated the purpose of the seminar because the results would not have been immediately visible or apparent. There was also a positive sidelight to using the video process for showing film lighting technique: it allowed the participants to see how close video is now to using film-type techniques to obtain the coveted "film look." It also allowed comparison of the slight differences still existent between video and film lighting, in that experienced film cameramen were showing *film* lighting procedures over the *video* system! The happy result was useful not only to the onlookers, but to the speakers and

crews themselves. It further pointed out that good lighting techniques can be used for both film and video production. The Ikegami EC-35 and Panacam video cameras were ideal for this exercise.

The following is a brief review of the highlights of each presentation, in the order in which they appeared at the seminar.

*Vilmos Zsigmond, A.S.C.*, born in Hungary, has — since coming to the United States in 1957 — won an Academy Award Oscar for *Close Encounters of the Third Kind*. Some highlights of his career as a leading director of photography include *The Deer Hunter*, *McCabe and Mrs. Miller*, *Deliverance*, *Scarecrow*, *The Long Goodby*, *Sugarland Express*, *Cin-*

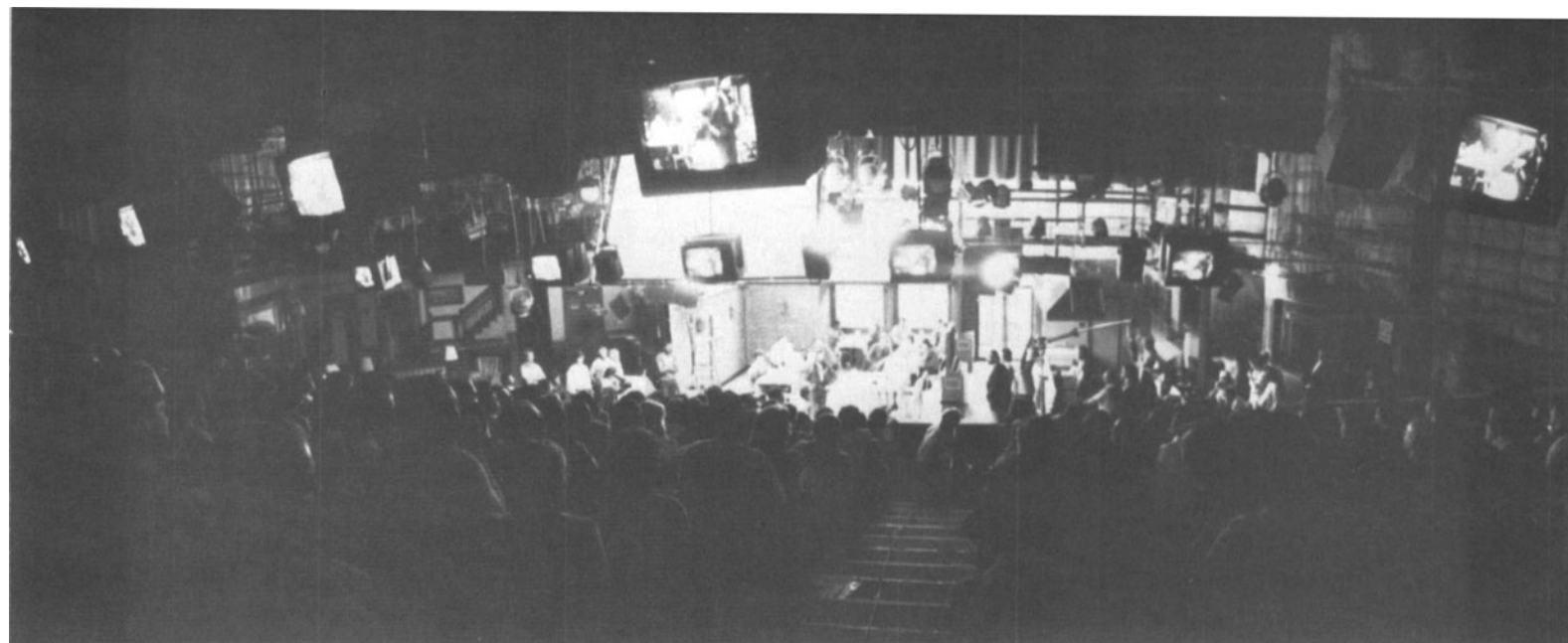
*derella Liberty*, *Winter Kills*, *The Rose*, *Heaven's Gate*, *The Border*, *The Jinxed*, *Blow Out*, and *Table For Five*.

At the opening of his session, Zsigmond remarked that it is "Lighting that makes movies an art form: lighting creates the mood to serve the director and the performance." He further said that it would be "hard to show in 90 minutes what took over 10 years to learn." He went on to say, before beginning his demonstration, that mood is the time of day, the location, and the story; and that mood is created on film by two things: lighting and exposure.

The set for Zsigmond's demonstration was a cafe interior built in the studio and set up for studio-type lighting, with no ceiling on the set, and



Committee members Charles Kircher, (L), Donald McCloskey, and Toni Roth registering participants at seminar.

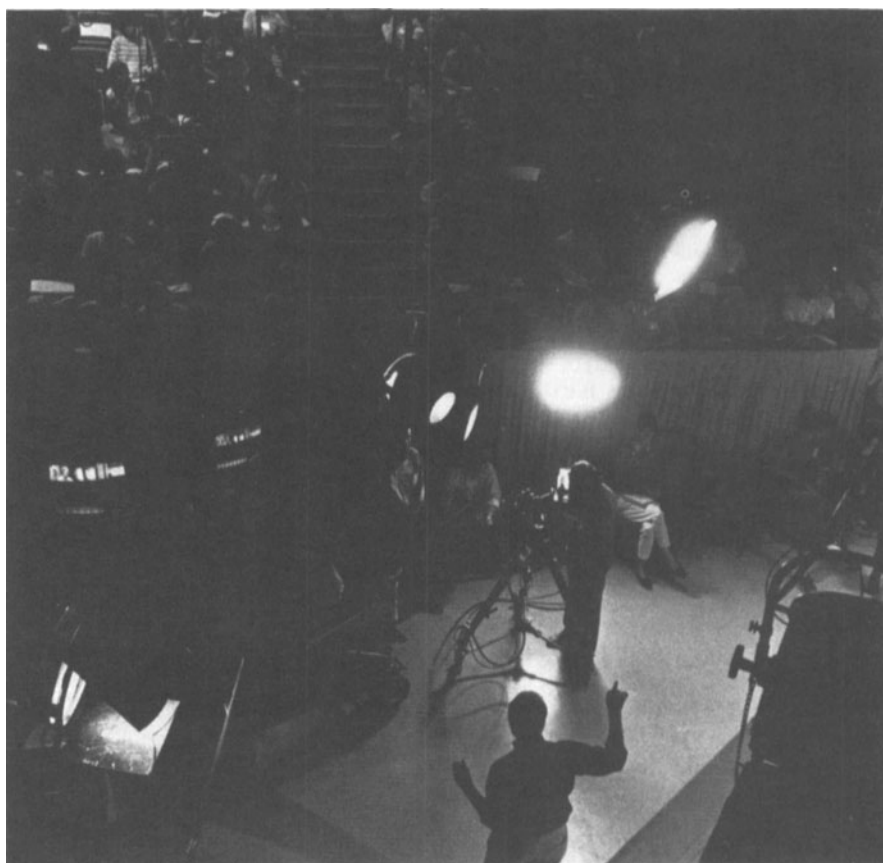


Demonstrating a set-up. Note the view on the overhead monitors.

with full availability of studio-type lighting fixtures, overhead catwalks, etc. Visible through the window at the rear of the set was a backing, simulating a view across the street, but in reality only about five feet from the back wall of the cafe set. Because the appearance of any type of mood is determined by the different light level between the interior and the "outside" (in this case the backing), the backing is lit first.

For an early-morning look, the backing is lit to an equivalent of  $T 9$  for type-5293 film rated at ASA 500. Next, the "sun" (in reality a 10-kW fixture over the window), was set, with its angle allowing the light to reflect off the semi-shiny floor of the cafe, giving the viewer a sense of real sunlight bouncing off the floor. All interior practical lamps are off, giving the viewer the feeling that the entire cafe is lit by the light coming in through the window. Zsigmond here stated that you must "lead the viewer or audience" to believe where the light is coming from. He adds that the effect here, overly simplified, is one of a "morning optimistic light mood." Fill light is brought up just enough to detail the shadows and lighten the faces of the customers in the cafe just slightly, but not enough to overpower the "sun" or the lighting on the backing.

Zsigmond notes that for this scene he is shooting at around  $T 5.6$ , "to hold the depth of field," and that the outside backing will read about one and one-half stops "hotter" than the interior key light on any subject in the scene. The fill light — off of a 12 × 12-in. bounce board — is supplied by two



Richard Glouner, A.S.C., demonstrates a set-up on a darkened set.

10-kW lamps, so that the fill reads 28 fc from the subject position, "enough for film, but video might need a touch more." He notes that on the overhead catwalk his fixtures are 2-kW Juniors with tracing paper to soften the light, and that to light the backing he uses 5-kW and 10-kW fixtures, with some added 2-kW softlights. Zsigmond adds that although here he is controlling the important backlight by light level, on a practical location cafe, he would use

window-mounted neutral density filters to obtain the same "look."

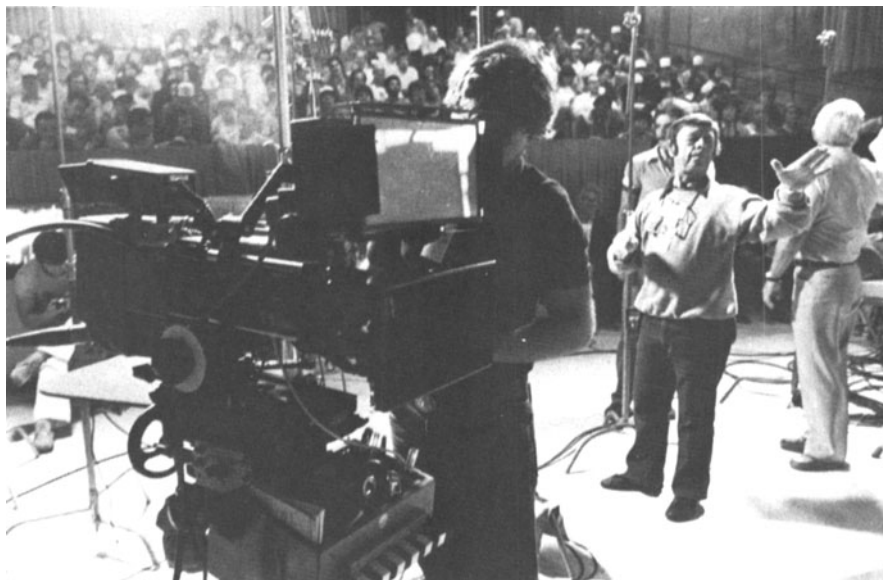
Answering a question from the audience, Zsigmond remarks that he almost always leaves the "hemisphere" on his meter, because film is going to average out all the light just as the eye does. "And I always use the conservative exposure recommendations of the film's makers, because you get a better negative the closer you are to the recommended ratings. I only advise

over-rating the film if it is necessary for the shot."

Zsigmond then lights the same set for a night scene, simulating early dusk. This is done by lowering the backing light level to  $T 4.5$ , and adding some blue gels to the lights that illuminate the tables near the window. Overhead softlights give a "fluorescent cafe" look, and the fill light is softened and lowered slightly by putting single or double diffusion on the 10-kW fixtures that illuminate the bounceboard used for the fill.

After also demonstrating a later-evening situation, Zsigmond showed how a "candlelight" scene would be shot, with electric 100-W lights replacing the actual candles. Because of the speed of 5293 film, he illustrated how brown hair spray was used to further "kill" the hot spot in the "candle's" globe, on the camera-side, thus allowing the glow of the "candle" to act as a light on the subject. Wall lights and other fixtures in the background were balanced by eye, and the outside backing was dimmed considerably to allow small "window" lights coming from the "building" across the street to show. (Actually, the windows were cut-outs in the backing, illuminated from behind.)

In closing, Zsigmond remarked that he likes to use light to get the desired "look" on the camera negative. For that reason he likes "one-light dailies," so he can see for himself what he has done without the lab making changes or corrections.



Setting up a shot. In the foreground, Panacam with Panalite light over the lens shade.

*Richard Glouner, A.S.C.*, worked his way up the Hollywood ladder of success, starting in the Animation Department of Walt Disney Studios in 1955. He is now a director of photography, working in both the theatrical and television film fields. Among his credits as director of photography are "Columbo," *Payday*, *The Gumball Rally*, *The Man With Bogart's Face*, *Marion Rose White*, and a portion of *The Bible*.

Glouner also demonstrated the lighting of an interior set (this time a living room) as constructed on a typical sound stage. In his opening remarks, he told the seminar participants

to remember that "lighting, like everything else a cinematographer uses (cameras, lenses, filters, etc.), is merely a tool. An audience should not be aware of the lighting, just as they should not be aware of the camera or its movement. Keep it natural-looking."

He demonstrated basic lighting by having the actor walk through the scene, stopping at important action or dialogue points, and then "cleaning up" the lighting at those critical points. Further, he demonstrated the basic differences between "day effect" and "night effect" for lighting this type of set, including points such as "cheating" by showing the "blue moonlight" streaming through an open door and cool bluish light coming in the windows. He emphasized that on night interiors "no obvious light source" is visible, but adding the need for backlights and kickers, etc., for separation, without shadows of their own. For night scenes in particular, Glouner noted that a close contact with the lab is mandatory, as each lab tends to print night scenes differently unless given specific instructions.

The fixtures used by Glouner were a mixture of quartz halogen and incandescents, with no HMI lights. "Lighting technique is a personal opinion or statement, but the nice thing about working in a large studio is that they have any type of equipment you might need, such as dimmer banks, lightning machines, etc." As if to emphasize this point, Glouner said that the light fixture complement for his interior day living-room set consisted of a mixture of 5-kW Seniors, 4-kW softlights, and 2-kW lights.



Harry Wolf, A.S.C., (center) explains the technique of lighting a car interior.

Following a question from the audience, Glouner advised the five main points in lighting a woman to make her younger-looking:

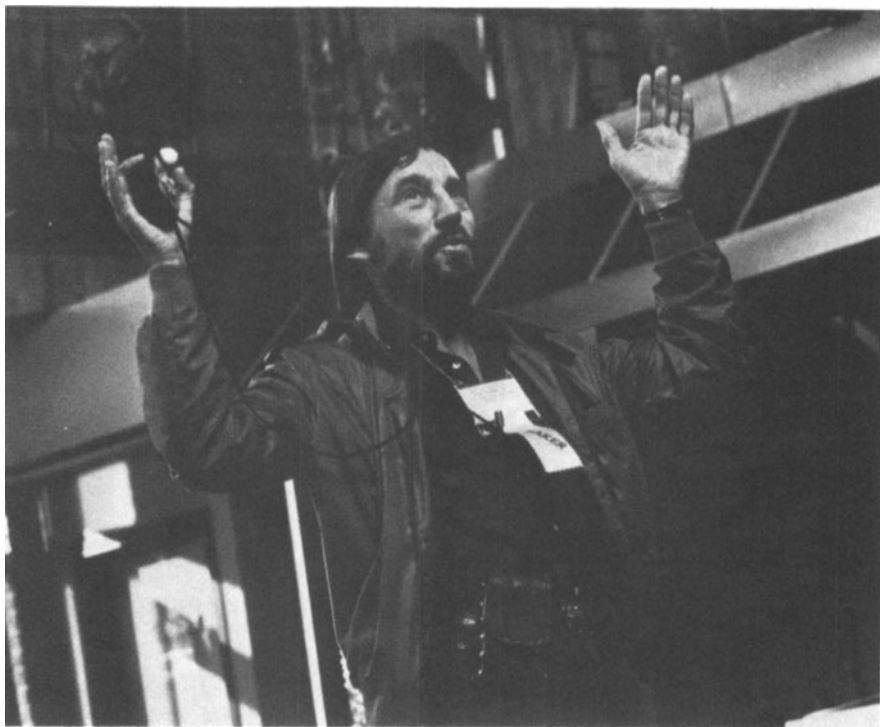
- Don't light from a low level
- Elevate the camera slightly
- Shoot at a downward angle toward her face
- Use an eye light with a double-fog filter
- Put a silk over either the lens or the light.

*Harry Wolf, A.S.C.*, also worked his way up the Hollywood ladder to success, having started out as an assistant cameraman and film loader, in 1936, at Monogram Pictures. He was an assistant on such films as *Rebecca*, *Intermezzo*, and *Gone With the Wind*. His television credits as a director of photography include "Columbo," "Baretta," "The Beverly Hillbillies," and "Petticoat Junction." He is past-president and current 3rd vice-president of the A.S.C. (American Society of Cinematographers).

Wolf demonstrated the lighting of a car interior for a stationary or moving shot with a real car. For the demonstration, he used two Mole-Richardson Molequartz Molepar Type-2271 lamps, mounted over the hood of the car on either side of the Panacam camera. Difficulties with this type of shot, such as the problem of reflections off the windshield itself, or reflections of the equipment and crew, were covered in detail.

Wolf explained to the participants, many of whom were film students, that it was almost impossible to give standard pat answers to changing situations that would be encountered in an actual shot like this. He remarked that at times you just had to "pull tricks out of your back pocket from years of experience." He advised, however, such tricks as keeping close contact with the lab, allowing shots without the filter, and having the lab correct for color balance, or color temperature, or matching problems with other footage for the film. He went on to state that, as filmmaking is a business, "time is money," and sometimes shortcuts must be made, especially when in a situation such as filming and lighting a moving car through uncontrollable lighting situations (going down a city street, for example).

As for the "reflections in the windshield" problem, some of the solutions, Wolf added, included positioning the moves of the car so that sunlight would



Vilmos Zsigmond, A.S.C., explains a lighting problem.

not bounce off the window into the lens, or travelling down "well-treed" or "closed-in-by-buildings" streets, etc. Also, if necessary, flags and cutters, or "cookies" of various types, could keep direct light off the windshield from the sky.

*John Elsenbach, A.S.C.*, had the privilege of being an assistant cameraman on such notable films as *Pete Kelly's Blues*, *Picnic*, and *The McConnell Story*. Since becoming a director of photography in 1963, his credits have included *Bloody Mama*, *Winning*, *A Girl Named Sooner*, *Nashville Rebel*, *Love at First Bite*, "Rich Man, Poor Man: Book II", "Kojak," *Black Sheep Squadron*, *Loose Change*, and the TV pilot of "Ryan's Four."

Elsenbach's set was a bedroom interior at night. His presentation was unique in that he used two performers with lines of dialogue, so that toward the end of his presentation an actual scene was "shot," complete with all camera moves, mike booms, etc.

At the beginning of his presentation, Elsenbach showed how a director of photography and his key crew members (key grip, camera operator, and first assistant) would walk through a scene, making floor-marks at points of key action of dialogue, and this was done before any of the preliminary lighting was attempted. This is the manner in which most working crews initially determine the lighting of a

particular set or scene, but it was unique among the seminar demonstrations. The scene performed by the actors consisted of a three-page script, which if actually done would take about two to three hours to light, rehearse, and shoot, including all the necessary shots (master, reactions, inserts, etc.).

For this interior, Elsenbach wanted a keylight of 40 fc and a fill light of 10 fc resulting in a lighting ration of 5:1, as the ratio is determined by measuring key-plus-fill against fill-alone. Elsenbach, like many cameramen, works in footcandles rather than T-stops, but this is a matter of personal preference. In this situation, he would rate 5293 film at ASA 400, and the new 5294 at ASA 600, giving a stop of T 3.2 with a 175° shutter. He stated that "if I was nervous I would open the shutter up to 200°, keeping the same T 3.2 stop."

For the level of the practical bedside lamps (with photofloods in their sockets), Elsenbach used a spot-meter aimed directly at the shades on the lamps. For the bluish light coming through the windows, a 2-kW light with a booster blue filter was used, with a "cookie" to break up the light, positioned close to the fixture to diffuse the pattern. To control the contrast, he used a soft fill, bouncing the fill off of a 12 × 12-in. silk on a board. (Elsenbach added that on exteriors he liked to use 20 × 20-in. silks to control the sun, but that they couldn't be used on wide shots, obviously.)

The Panacam used by Elsenbach was equipped with a Panalite, which is Panavision's version of the on-board Obie light (named by Lucien Ballard, A.S.C., who developed the "Obie" and named it after Merle Oberon, the actress upon which it was first used). Elsenbach noted that he usually used spun glass on the Obie for interiors, and a blue filter for exteriors. The Panalite, like many other current Obie lights, has a 1000-W variable intensity power, without variance in color temperature. Elsenbach, who likes to use an Obie to fill in the eyes on close-ups, stresses that you must be careful of shadows it creates, and adds that the Panalite measures about 10 fc at 7 ft when about 75% "on."

Elsenbach and his crew continued by doing an actual "take" of the complete scene, in a "master shot" complete with all camera and mike moves. Then, just the girl's portion of the scene was shot, complete with such problems as reflections visible in a mirror, etc., Elsenbach remarked on the need for good fast lighting, as most episodic television filmed shows do ten to twelve pages a day, as compared to perhaps two pages a day for a feature film.

Jack Cooperman, A.S.C., has a varied background in theatrical and television lighting. In motion-picture work, he is mainly noted for under-

water, miniatures, and effects. He was underwater director of photography on such films as *Raise the Titanic*, *An Officer and a Gentleman*, and *Beyond the Poseidon Adventure*. He has done miniature photography on such projects as *The Winds of War*, *War Games*, and *Blue Thunder*, and aerial cinematography for numerous films and television shows.

Cooperman's presentation was also highly unique for the seminar, in that he had his set constructed with a false ceiling. In effect he was able to show the audience how to light a practical bar set, on location, using small lighting units and available equipment. In this way, the participants were able to see situations in lighting often encountered out in the field on an actual location, instead of in a Hollywood film studio.

Cooperman showed the lighting of an interior bar at night, highlighted by the demonstration of the use of smoke for effect. Outside the window of the practical location set were green shrubs, which were very hard to light. Cooperman added that location practical lighting had to be built around the available equipment and power for the lights; for example, it would be foolish to have 220-V lamps when the location only had 110-V power available. Like Zsigmond, Cooperman had 100-W bulbs substituting for candles, although he remarked that if he were

shooting with the new 5294 film he would probably depend on the actual candles themselves.

Cooperman explained that he had spent two hours that morning roughing in the lighting, as the set had just been constructed several days earlier. All the lighting units were small, to be able to be plugged into a standard socket on location, and they were positioned for considerable cross-lighting for an "edgy night look." Most of the units were 200-W Mole Inkys, with two larger 1600-W units in the corners only.

Lighting for the scene was a key light of 25 fc and a fill of 8 fc, with the film rated at 320 ASA, which would be equivalent in video to  $T$  2.8 with an added two boosts in the gain. For his demonstrations, Cooperman was using two Ikegami EC-35 cameras, one of them mounted on a Steadicam. The camera on the Steadicam had a Canon 15-mm lens, which Cooperman stated was the equivalent of about a 35-mm lens on a 35-mm film camera.

According to Cooperman, the three main problems with lighting a practical location are:

- The location is not usually seen until the day of shooting
- Lighting equipment must be brought along or available locally
- Power available at the location must be used. "Be inventive with what you have and what you really need," added Cooperman.

Because of his effects background, Cooperman expressed his habit of preferring to shoot around  $T$ -5.6 aperture, especially when eventual mattes, effects, miniatures, etc., are involved. "I like to go through as little glass as possible, and filter on the camera as little as possible. Do everything with lights."

Kenneth Palius is one of the television industry's leading lighting experts, and some of his credits include such shows as the "Kraft Theatre," "Pat Boone," and "Andy Williams" shows. He has been responsible for many standards in color television, as well as being in charge of lighting-pool television coverage of space missions, etc. Palius answered video-oriented questions for all four of the speakers, as well as supervising the four crews that were videotaping the presentations of the speakers on all the sound stages.

According to Howard La Zare, Seminar Committee Chairman, and SMPTE Vice-President for Motion-



Jack Cooperman, A.S.C., demonstrates filming and lighting technique of a smoke-filled bar set.



Jack Spring, arrangements chairman, addressing seminar.

Picture Affairs, this seminar on Lighting Production Techniques may be only the first of a series. He stated, "In view of the overwhelming response we had, and the great many applicants we regretfully had to turn away, I am pleased to announce that the Hollywood Section of the SMPTE is planning to conduct further production-oriented tutorial seminars on an annual basis."


The following companies contributed production services and supplies: American Broadcasting Co.; Ampex Corp.; Arriflex Corp. of America; Cinema Products Corp.; Compact

Video, Inc.; J. L. Fisher, Inc.; Image Transform, Inc.; Leonard Studio Equipment; Panavision, Inc.; Ruxton Ltd; Starfax, Inc.; and 3M Co.

The equipment exhibit co-sponsors included: Arriflex Corp.; Bardwell & McAlister, Inc.; Cinema Products Corp.; Cine Mills Corp.; Colortran, Inc.; GTE Sylvania; General Electric Corp.; Alan Gordon Enterprises, Inc.; The Great American Market; Key-light Rental Co., Inc.; LTM Corporation of America; Lowel-Light Manufacturing, Inc.; Matthews Studio Equipment, Inc.; Mole-Richardson Co.; Osram Sales Corp.; Photo Re-

search; Rosco Laboratories, Inc.; and Strand Century, Inc.

Mr. La Zare continued that the seminar would not have been possible without the contributions of the following individuals in their respective responsibilities: Arrangements, Jack Spring; Program, Jim Pratt, assisted by Edmund DiGiulio, Edward Phillips, and Richard Glickman; Printing/Registration Kits, Toni Roth; Financial/Auditor, Donald McCroskey; Audio Visual/P.A. and Recording, Richard Stumpf; Registration/Hospitality, Charles Kircher; Publicity, Charles Lipow; Lighting Coordinator, Terry White; Student Volunteer Coordinator, Gerald Finn; Post Production Coordinators, Herb Farmer, Mort Zarcoff, Alan Bloom, Joe Gutt, Roman Harte, and James Hindman; Facilities Coordinators, Lou Wolf, Rick Vaughnes, Harry Smith, Norm Rice, Frank Nifong, Bob Marshall, Bob Herman, Bill DeCinces, Bob Aldridge, and Saul Grossman; Technical Coordinators, Debbie Hemela, Bill Anderson, Phil Squyres, and Ken Wilson; Laboratory Consultant, Sidney P. Solow; and Journalist, Laurence J. Roberts. He also voiced a special thanks to Universal City Studios, M.C.A., and Dan Slusser for making the seminar possible.

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John Elsenbach, A.S.C., instructs actress in doing a scene.