

# *the National Photographer*

NOVEMBER 1959

PROFESSIONAL PHOTOGRAPHERS OF AMERICA, INC.  
152 W. Wisconsin Avenue, Milwaukee 3, Wisconsin  
Form 3547 Requested

BULK RATE  
U. S. POSTAGE  
**PAID**  
MILWAUKEE, WIS.  
Permit 4207



oops!

## Bring your negatives to life... ON HALOID® PHOTOGRAPHIC PAPERS

Your negatives fairly *spring* to life on photographic papers by Haloid Xerox! There's a special, top-quality paper for your specific need . . . including: *Varaloid*®, an excellent variable contrast paper most often used for commercial enlarging; *Halobrome*®, a high grade projection paper; *Halex*®, a contact paper especially suited for industrial photography and photo finishing; *Industro*®, a contact paper much in demand for commercial and portrait work.

Send today for your FREE catalog, listing detailed specifications of each . . . emulsion types, printing speeds, contrasts, surface weights, etc. Write: HALOID XEROX INC., 59-374 Haloid St., Rochester 3, New York. Branch offices in principal cities.

**HALOID  
XEROX®**

Photo from 1955 Graflex Photo Contest—Karla Wolf, Santa Barbara, Calif.

# HOW WOULD YOU HAVE LIGHTED THIS PICTURE?



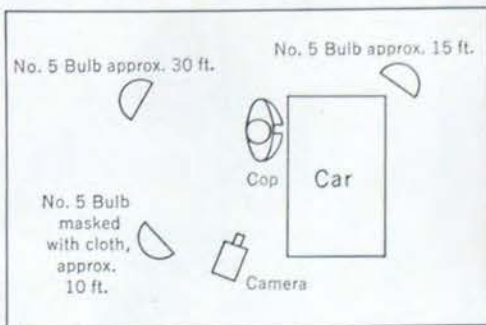
## NEWS PHOTOGRAPHER DAVID MATT FINDS G-E No. 5 FLASHBULBS JUST THE TICKET FOR LIGHTING DRAMATIC NIGHT SHOT

"Last winter while doing a picture story on people who work nights in White River Junction, Vermont," says David Matt of the *Valley News*, "I took the above photograph. My problem here was to preserve the night effect and still have enough detail in the darker areas to reproduce in our paper. I also wanted to stop down, so that the lights in the street would have the sunburst pattern.

"My solution was to set my Rolleiflex on a tripod and use  $f/22$  on bulb with a locking cable release.

I then fired three G-E No. 5 Flashbulbs to light the scene. (See diagram.) I masked the No. 5 Flashbulb closest to the camera with a cloth. Exposure time was

about 20 seconds. It's been my experience that G-E is the bulb you can count on to deliver the punch you need every time!"



**GENERAL ELECTRIC PAYS \$50.00** upon acceptance of photographs illustrating difficult lighting problems you've solved with General Electric Flashbulbs. Send your picture with a detailed description to: Photo Lamp Dept., General Electric Company, Nela Park, Cleveland 12, Ohio.

GENERAL  ELECTRIC

# the National Photographer

OFFICIAL PUBLICATION OF THE PROFESSIONAL PHOTOGRAPHERS OF AMERICA, INC.

Address all communications to PP of A Executive Office, 152 W. Wisconsin Ave., Milwaukee 3, Wis.

November 1959 **BPA VAC** Vol. 10 No. 11

## PPA BOARD OF DIRECTORS

### President

MADISON GEDDES, M.Photo.  
2104 Euclid Ave., Cleveland 15, Ohio

### Vice President

ROBERT L. BALL, M.Photo.  
3rd & Jefferson, Corvallis, Ore.

### Secretary-Treasurer

LAWTON E. OSBORN, M.Photo.  
17 2nd Ave. West, Dickinson, N. D.

### Portrait Director

WINTON B. MEDLAR, M.Photo.  
10 West 4th St., Spencer, Iowa

### Commercial Directors

WESLEY BOWMAN, M.Photo.  
360 N. Michigan Ave., Chicago 1, Ill.  
HARPER LEIPER, M.Photo.  
2800 W. Dallas, Houston 19, Texas

### Industrial Directors

JAMES E. HAMPSON, M.Photo.  
236 Carrollton, Shreveport 8, La.  
RICHARD C. KINSTLER, Cr.Photo.  
M. A. & R. Bldg., Cincinnati 17, Ohio

### Directors-at-Large

PAUL H. MARCH, M.Photo.  
651 Clinton St., Defiance, Ohio  
CLAUDE F. PALMER, M.Photo.  
420 S.W. Washington St., Portland 4, Ore.  
WILLIAM W. CARRIER, JR., M.Photo.  
629 S. Cooper, Memphis 4, Tenn.

### Immediate Past President

LOUIS F. GARCIA, M.Photo.  
4776 Central Ave., Kansas City 12, Mo.

### Executive Manager

FREDERICK QUELLMALZ,  
Hon.M.Photo.

### Assistant Exec. Manager

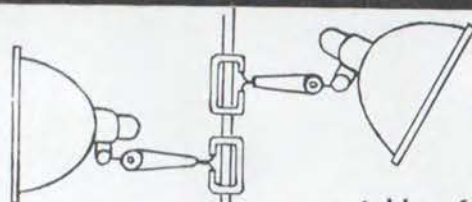
LAWTON E. OSBORN,  
M.Photo.

## EDITORIAL BOARD

Frederick Quellmalz, *Editor*  
Fred Schmidt, *Managing Editor*  
Val Albrecht, *Editorial Assistant*  
Duane Salie, *Cr.Photo.*  
*Chairman, Publications Committee*  
Gerhard H. Bakker, M.Photo.  
Gordon Bell, M.Photo.  
Wesley Bowman, M.Photo.  
James Cooper  
W. H. Edwards  
B. Artin Haig, M.Photo.  
Raymond F. Hildebrand, M.Photo.  
Richard E. Hinman  
George Hoxie, M.Photo.  
Bervin Johnson  
Harper Leiper, M.Photo.  
Robert A. Wellman

## NATIONAL ADVERTISING REPRESENTATIVE

Walter C. Freed, Jr.  
159 East Ontario St.  
Chicago 11, Illinois



## table of contents

- 530 NEWS AND NOTES  
533 IT'S YOUR BUSINESS  
*by Kermit Buntrock, Cr.Photo.*  
A sheet or two of film and a few extra minutes at the right time will pay off in added business.
- 534 WHAT'S DOING  
*by Val Albrecht*  
536 FTC NEWS  
538 NEW PRODUCTS  
541 PICKING PROMOTIONAL PARTNERS  
*by Hillary G. Bailey, Hon.M.Photo.*  
Teaching customers to want and to buy photography must be done at the local level. Mr. Bailey outlines four basic questions the photographer can ask prospective promotion agents.
- 542 DIRECT COLOR PORTRAIT SURVEY  
Results of a survey conducted by the Professional Photographers of Northern California.
- 543 WINDOW DISPLAYS THAT TALK  
*by Pat and Dave Woody*  
Show familiar faces in pleasant surroundings and your public will do your advertising for you—but give them something to talk about.
- CR-2 CONVENTION REPORT  
Part Two of the 1959 Convention Report for PP of A members only.
- 547 SCHOOL FOR MANAGEMENT  
A picture story about the Winona Industrial Photographic Management course.
- 548 PHOTOGRAPHY IN MEDICINE  
*by Robert H. Albertin*  
The role of photography as a tool in medicine is becoming increasingly important—Photography as a Tool—Part VI.
- 550 MY THEORY OF PORTRAIT PHOTOGRAPHY  
*by R. Kourken*  
Any one who tries can make good pictures, for there is goodness in all people—you have to know how to bring it out.
- 552 TWICE THE QUALITY, HALF THE COST—THROUGH CHEMISTRY  
*by Lemont B. Kier*  
Most photographers know that the entire photographic process is a matter of chemistry and physics but because they are not trained in these subjects, they often overlook the many benefits made possible by applying some of the forgotten principles of chemistry in their own darkroom.
- 556 COMING CONVENTIONS  
557 LOCAL, STATE AND REGIONAL NEWS  
558 NORTH CAROLINA PA LETTER TO SURVIVORS  
558 THE COMMERCIAL CORNER  
*by Harper Leiper, M.Photo.*  
How to build a versatile light box that eliminates shadows in small product photography.
- 561 INSIDE INDUSTRY  
561 FROM THE MAILBAG  
564 MEMBERSHIP APPLICATIONS  
564 BOOK BRIEFS  
565 CLASSIFIED ADVERTISEMENTS

## this month's cover . . .

of a tooling close-up is by Rick Warner, M.Photo., photographer for Eastman Kodak Company, Rochester, N. Y. Three clear flash bulbs—one No. 5 back light at left; one No. 5 to left of camera; one No. 22 as fill-in to right of subject—lighted the scene on Ektacolor Type S with a 4x5 Kodak Master view camera and 8" Ektar lens at f/32. The four-color engravings for the cover were made from an Ektacolor Print.

Member, Chamber of Commerce of the United States  
Business Consultant, Arthur W. Gutenberg, Ph.D., Phoenix, Ariz.  
Public Relations Counsel, Glassner & Associates, Chicago, Ill.  
Legal Counsel, George E. Frost, Chicago, Ill.  
Copyright 1959. PROFESSIONAL PHOTOGRAPHERS OF AMERICA, INC.





# BIG BIG THREE

## 16 x 20 STUDIO FRAMES

No. 7

16 x 20 Frame

4" Cherry Finish Wood Moulding with Gold White Metal Gallery Insert.

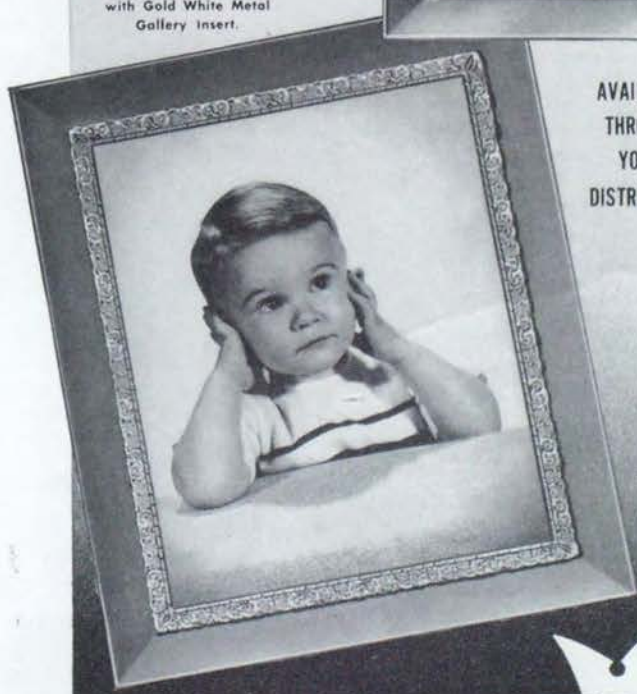


No. 8

11 x 14

and 16 x 20 Frames

3" Cherry or Venetian White Wood Moulding with Gold White Metal Gallery Insert.



No. 6

16 x 20 Frame

4" Wood Moulding with Gold Plated Metal Gallery Insert.

AVAILABLE  
THROUGH  
YOUR  
DISTRIBUTOR



1840 N. CLYBOURN AVE. CHICAGO 14, ILL.

# EFFORTLESS

"It Swings Into Position"



**SOLARMATIC**  
4 x 5"  
Semi-Automatic  
Enlarger

**RIGID  
STEEL  
FRAMEWORK**

## SOLAR-MATIC

As advanced as the rocket era!  
Backed by 30 years of Enlarger  
Leadership! 4 x 5 Enlarger with  
coated f/4.5 anastigmat lens...  
NP 1059 Also available to accept your lens.

**\$174.50**

**BURKE & JAMES, INC.**  
321 S. Wabash Chicago 4, Illinois

## NEW! Lisco REGAL 4x5 CUT FILM HOLDER

Different from any other holder!

Made of Rugged, Durable **RHINO-LITE**  
Will not crack, split, or break!

**SOLID METAL INTERIOR**  
Prevents warping... assures utmost strength and rigidity!

**THINNER**  
New design gives you more holders in less space... permits faster, easier loading!

**SHARPEST FOCUS**  
Famous Lisco focal plane accuracy... plus the latest advances in cut film holder design and construction—of no... **\$4.50** list  
Available in 4 x 5 size only

2-Year Unconditional Guarantee!

For your requirements of other sizes, be sure to ask for Lisco holders in traditional cherrywood and aluminum... 5x7, 8x10, 4x5, 2 1/4 x 3 1/4 and 3 1/4 x 4 1/4.

See your local camera dealer or write for free Folder A.

**LISCO PRODUCTS CO.**  
1614 Victory Blvd • Glendale 1, Calif.



# NEWS AND NOTES



## PPA AFFILIATED ASSOCIATIONS

Alaska Professional Photographers' Association  
Arizona Professional Photographers' Association  
Arkansas Professional Photographers' Assn.  
Professional Photographers of California, Inc.  
Prof. Photogs. Assn. of Central California  
Industrial Photographers of Southern Calif.  
Society of Industrial Photographers (Calif.)  
Prof. Photographers' Assn. of the Inland Empire  
Kern County (Calif.) Prof. Photogs Assn.  
Prof. Photographers' Assn. of Long Beach  
Professional Photographers of No. Calif., Inc.  
Sacramento Photographers' Association, Inc.  
Prof. Photogs. Assn. of San Diego County, Inc.  
Professional Photographers of So. Calif., Inc.  
Tri-Counties Prof. Photographers' Assn. (Calif.)  
Professional Photographers of Greater Denver  
Connecticut Prof. Photographers' Association  
Florida Photographers' Association  
Georgia Professional Photog's Association  
Illinois Photographers Association  
Chicago Photographic Guild  
Prof. Photographers' Assn. of Northern Ill.  
Southern Illinois Art League  
Indiana Association of Photographers  
Professional Photographers of Iowa, Inc.  
Midwest Industrial Photographers' Association  
Kansas Professional Photographers' Association  
Kentucky Professional Photographers' Assn.  
Prof. Photogs. Assn. of Greater Louisville  
Prof. Photographers' Association of Louisiana  
Prof. Photog. Guild of Greater New Orleans  
Maine Professional Photographers' Association  
Prof. Photographers' Assn. of Maryland, Inc.  
Maryland Industrial Photographic Association  
Massachusetts Prof. Photographers' Assn.  
Professional Photographers of Michigan  
Minnesota Prof. Photographers' Assn., Inc.  
Professional Photographers of Miss.-Ala., Inc.  
Missouri Photographers' Association  
Prof. Photogs. Assn., Greater Kansas City, Inc.  
Prof. Photog. Assn., Greater St. Louis, Inc.  
Prof. Photogs. Assn. of Southwest Missouri  
Montana Photographers' Association, Inc.  
Professional Photographers' Assn. of Nebraska  
New Hampshire Assn. of Professional Photogs.  
Prof. Photographers' Assn. of New Jersey  
Industrial Photographers' Assn. of America  
Photographers' Assn. of New Mexico  
Prof. Photographers' Society of New York  
Buffalo-Niagara Section (PPS of New York)  
Hudson Valley Prof. Photogs. Society of N. Y.  
Syracuse Professional Photographers' Assn.  
North Carolina Photographers' Association, Inc.  
North Dakota Photographers' Association  
Ohio Professional Photographers' Association  
Prof. Photogs. Assn. of Greater Cincinnati, Inc.  
Cleveland Society of Prof. Photographers  
Columbus (Ohio) Soc. of Professional Photogs.  
Professional Photographers' Assn. of Oklahoma  
Photographers' Association of Oregon  
Commercial Photographers' Assn. of Oregon  
Prof. Photogs. Association of Pennsylvania  
Commercial Photographers of Philadelphia  
Delaware Valley Guild of Prof. Photographers  
Commercial Photo Guild of Pittsburgh  
Triangle Photographers' Association  
Photographers In Industry (Greater Pittsburgh)  
Professional Photographers of Rhode Island  
South Dakota Professional Photographers' Assn.  
Tennessee Professional Photographers' Assn.  
Memphis Photographers' Association  
Texas Photographers' Association  
Central and West Texas Photographers' Society  
Dallas Professional Photographers' Association  
East Texas Photographers' Association  
Professional Photographers' Guild of Houston  
Mid-Coast Photographers' Guild  
Panhandle Professional Photographers' Assn.  
South Plains Professional Photographers  
Valley Professional Photographers' Guild  
Utah State Photographic Association  
Professional Photog's Society of Vermont  
Virginia Professional Photographers' Assn.  
Professional Photog. Assn. of Washington, Inc.  
Central Wash. Chapter, PPA of Washington  
Seattle Chapter, PPA of Washington  
Spokane Chapter, PPA of Washington  
Yakima Chapter, PPA of Washington  
Prof. Photographers' Assn. of West Virginia  
Wisconsin Professional Photographers' Assn.  
Wisconsin Industrial Photographers' Association  
Fox River Valley Photographers' Association  
Indianhead Prof. Photographers' Assn. (Wis.)  
Wyoming Professional Photographers' Assn.  
Architectural Photographers' Association  
Photographers' Association of New England  
New England Police Photographers' Assn.  
Rocky Mountain Prof. Photographers' Assn.  
Southeastern Photographers' Association  
Southwestern Photographers' Association  
Commercial & Press Photogs. Assn. of Canada  
Alberta Prof. Photographers' Association  
Professional Photog. Assn. of British Columbia  
Ontario Society of Photographers

## MICHIGAN SEMINAR IN MAY

The second annual Seminar for Professional Photographers, sponsored by the PP of A, PP of Michigan, and Michigan State University will be held next May 15-16 at the Kellogg Center in East Lansing. Bervin Johnson, Whitehall, Mich., will be general chairman.

## HISTORIC PHOTOGRAPH



Recent Winona acquisition. Framed photo of S. F. B. Morse with Daguerreotype camera.

The Winona School of Photography has received a framed photograph of Samuel F. B. Morse with the first Daguerreotype camera brought to America. The gift was presented to the school by Robert V. Morse of Ithaca, N. Y., which was bequeathed to him by an aunt, the Rev. Dr. Rowena Morse Mann.

The wooden back of the frame bears the inscription: "Photograph of Professor F. B. Morse, Inventor of the Electric Telegraph. The camera by his side is one presented to him by Daguerre, the originator of the Daguerreotype System, and brought to America by Prof. Morse, being the first instrument of the kind brought to this continent. This photograph was presented to E. P. Libby by Prof. Bogardus, President of the National Association of Photographers, and by Mr. Libby contributed to our Collection of Miscellanies—Keokuk (Iowa), April 8th, 1882—C. F. Davis."

The National Association of Photographers was predecessor to the Professional Photographers of America, Inc.

## NEW NAME

California is the latest photographic organization to follow the national trend of using the word "professional" and dropping the word "association" in its name. The change in name to Professional Photographers of California, Inc. was made at the state council meeting in July and has been duly registered.

(Turn to page 532)



*"Memories." Photograph on Ilford FP3 Series II 35mm Film.*

# This is the new **ILFORD FP3** Series II

**for finer grain . . . crisper definition!**

ILFORD FP3 has long been the choice of critical professionals when selecting a 35mm film of medium speed.

Now, an entirely *new* FP3 emulsion is available in 35mm . . . identified as Series II on the carton . . . to give you the same superb gradation, with wider exposure latitude, the same speed rating (ASA 64), plus much finer grain and even crisper definition.

Try exposing this film at twice its speed rating and twice the enlargement you have previously used with FP3.

If you take pride in your 35mm enlargements—and who doesn't?—Ilford FP3 Series II is the film you want. If your regular supplier doesn't have it yet, ask him to write us.



Look for "Series II" on the back of the carton.

**ILFORD INC.** 37 WEST 65th STREET, NEW YORK 23, N. Y.

IN CANADA: Canadian Distributors for Ilford Limited, London: W. E. Booth Co., Ltd., 12 Mercer St., Toronto 2B



Portrait by Ralph B. Sotelo



Portrait by Oliver Glispie



Portrait by Joseph Ollis Dupont

## VERITAR... the LENS for more flattering PORTRAITS

You'll notice the difference on the first portrait you take with a VERITAR. Glamorizing softness or pleasing sharpness, it's up to you at a touch of the diaphragm. The tonal gradations you want are on the print... the kind of portraits your customers like... portraits that please without tedious time-consuming retouching.

*Different Lighting... Poses... Technique...*  
but **PRIZE WINNERS ALL.**



**WRITE** for more detailed literature.  
No obligation, of course.

**WOLLENSAK**  
OPTICAL COMPANY • ROCHESTER 21, N. Y.

## NEWS from page 530

### PHOTO CONTESTS

#### High School

The 1960 Kodak High School Photo Contest for boys and girls in grades 9 through 12 will have 338 prizes totaling \$11,750 in cash awards. This year, color entries as well as black-and-white will be accepted. Prints and transparencies made since April 1, 1959, are eligible for submission. Dates for entering the Contest will be between January 1 and March 31, 1960. Further details and practical hints

to contestants are available from Kodak High School Photo Contest, Rochester, N.Y.

#### Third National Minox

The Third Minox Photo Contest will have two divisions, with ten duplicate prizes being awarded in each: Business—judged on useful application in business or industry; Pleasure—judged on photographic excellence and artistic excellence. Details may be obtained from Minox Processing Laboratories, Box 94, Forest Hills 75, N. Y.

#### NEW PHOTOKINA DATES

L. Fritz Gruber, Managing Director of Photokina, has announced that the next

### LOUIS PHILIPPE CLERC

Louis Philippe Clerc, distinguished editor of the French Scientific photographic publication *Science et Industries Photographiques*, died at his home in Paris on September 7 at the age of 84.

As a photographic scientist, teacher and writer, M. Clerc worked intensively for the advancement of photography everywhere. His contributions were particularly outstanding in the fields of graphic arts, color and aerial photography, photographic chemistry and the applications of photography to science and technology. The French government decorated him as Chevalier of the Legion of Honor in 1949. Among the many other honors given to him was a PP of A 75th Anniversary Citation in 1955.

Photokina Show date has been changed from the Spring of 1961 to September 24 through October 2, 1960. The change in dates was principally made to avoid conflict with the convention and trade show of the Master Photo Dealers' and Finishers' Association traditionally held in the Spring of each year.

### PHOTOGRAPHY REVIEWED

Congratulations to the editors of *Art Direction* magazine (19 W. 44th St., New York 36, N. Y.) on their October 1959 issue devoted to professional photography.

Readers are brought up to date on materials, equipment, and the background of the latest photographic technical developments by *Modern Photography* Editor Jacquelyn Balish.

Kirk Wilkinson, Art Director for *Woman's Day*, discusses the latest trends in food photography, noting that dramatic composition, emphasis on color and form, especially variety in lighting, characterize today's best food photography. "Photographers," he declares, "haven't exhausted their possibilities."

### No Pattern

Nine art directors picked their favorite photographs of the year and stated what they look for when buying photography. It was concluded by *Art Direction* that no pattern of thinking was revealed, but "showed that there are as many personalized approaches to photo buying as there are buyers."

Photography for the industrial advertiser is reviewed by Alexander Roberts, President of Interstate Industrial Reporting Service, Inc., who claims that 75% of the ads in business publications are a waste of time, space and dollars because of their ineffective photographs.

### Creative Interest

A report on *McCall's* new "visual vitality" shows how creative photography, typography and design have given a new and exciting presentation to the magazine. The photographer is definitely a member of the team at *McCall's*. He is in on every phase from idea meeting to seeing the pasted-up layout for his added suggestions. It was music to our ears to read: "All this brings out the creative interest in the photographer and makes the best possible use of his special talents."

Thank you, *Art Direction!*

## IT'S YOUR BUSINESS

by Kermit Buntrock, Cr.Photog.

We smile about the farmer who refused advice from the agricultural expert with the reply, "I'm not farming half as good right now as I know how."

That farmer has his counterpart over and over again in the ranks of professional photographers. Most of us aren't operating our businesses half as good right now as we know how.

Experts claim that the average man works at about 5% of his mental capacity. This figure might be exaggerated, but it is true that most of us aren't anywhere near realizing the potential photographic business that we could be doing in our communities. Opportunities for more business lie all around us.

### Adult Family Groups

Most of us know that a picture of mother and dad together is a "red-hot seller." When we have those adult family groups in our studios, why stop with just the group? It usually takes only a suggestion from us to get a very valuable negative of mother and dad together. The children will line up quickly on our side, because it's a picture they want.

Then it takes just a sheet or two of film and a few extra minutes to get some negatives of "the old guy" by himself. We had better do it, too, because more than likely that's the last time we're going to get him before the camera. No matter how unsatisfactory the picture may be, it will do more justice than one of him in a pine box with flowers on his chest.

### Photographs of Parents

Here's another idea we can use to get those camera-shy parents into our studios. With more and more young people going away to college, the demand for photographs will increase. Parents sometimes don't add up to much while the youngsters are around home. Give them a few months (Turn to page 564)

### KEY MAN CONFERENCE

Photographic firms throughout the Midwest are invited to be represented at the second annual "Key Man Conference," sponsored by the PP of A and the Chicago Photographic Guild. The program is designed especially for the key men in photographic operations.

The dates are November 6-8. This is a weekend of intensified study and training in management. The Conference will be held at the Moraine-on-the-Lake Hotel, Highland Park, Ill. Cost of \$50 per person includes all expenses except hotel room. Contact Ray Good, Executive Secretary, Chicago Photographic Guild, 20 N. Wacker Drive, Chicago, Ill.

# studio... location... darkroom...

new  
**Linhof**  
color 4x5  
MONORAIL VIEW CAMERA

## does everything!



### in the studio...

for industrial,  
commercial—portrait  
photographers too!

### on location...

light, compact,  
versatile.

### in the darkroom...

converts to an enlarger.



only  
**\$219.50**  
less lens

The 4x5 Linhof-Color camera has captured the imagination of critical photographers the world over. Commercial and industrial studios; fashion, scientific, architectural photographers; photo schools; hospitals, smaller studios; advanced amateurs—ALL welcome the versatility of this rugged, economical new Linhof precision camera. Use it for copying, photomicrography, macro photography—even enlarging, with equal ease and efficiency.

The Linhof-Color is smart looking! Made of special metal alloys, finished in light grey color, with satin chrome monorail. Weighs only 4½ lbs. See your Linhof Dealer—he will be pleased to demonstrate the 4x5 Linhof-Color camera to you; or write for **FREE** folder.

For complete 120-page Linhof Book "70 Years Service to Photography" send just 50 cents.



■ 17" (triple) bellows extension. Accepts any lens from 53mm extreme wide angle to 360mm telephoto. Lightweight, rigid optical bench construction.

■ Camera can be used with extreme wide angle lenses. Precise rack and pinion focusing...critical with the longest and heaviest lenses.

■ Famous Linhof Universal Revolving Back with Kodak Ektalite field lens...accepts any standard 4x5 cut or roll film holder. Full range of camera front and back movements for correction of perspective and distortion.



SOLE U. S. DISTRIBUTOR

# KLING

PHOTO CORPORATION  
257 FOURTH AVENUE • NEW YORK 10, NEW YORK

# new imported castell SILVER LEADS

give you professional RETOUCHING  
without DOPE

Three grades of imported CASTELL SILVER LEADS cover the entire range of professional negative retouching. Experts are enthusiastic about the excellent blending characteristics and highlighting properties. Permit you to build densities without killing the image. *Eliminates the messy use of dope.* Tested and approved by leading retouchers and studios. Sold at Photographic Material and Artists' Supply Stores. Try CASTELL SILVER LEADS. Ask for them by name and stock number.

A.W.FABER-CASTELL Pencil Co., Newark 3, N. J.



No. 9049—range 2B to HB (Soft to Medium)

No. 9050—range HB to 2H (Medium to hard)

No. 9050A—range 2H to 4H (Hard to Very Hard)

**FIDELITY**  
*Deluxe*  
**CUT FILM HOLDER**

**NEW**  
IRON-GRIP  
HINGE  
FABRIC!

**NEW**  
INTER-  
LOCKED  
CORNERS!

Cannot come apart... cannot leak light... cannot break! Plus all-metal interior core, 16% thinner than old-style holders, no wooden parts to break. Unconditionally guaranteed for two years!

4 x 5 and 5 x 7 in  
Deluxe Model only

2 1/4 x 3 1/4 and 3 1/4 x 4 1/4 holders in  
traditional cherrywood and aluminum.

**MODERATELY PRICED . . .**  
**ASK YOUR DEALER TODAY!**

Write for New Free Brochure

**FIDELITY MFG. CO.**  
1614 Victory Blvd., Glendale 1, Calif.

## PORTRAITS IN THE OFFICE

The showroom of the Shaw-Walker Co., Chicago, featured a "Portrait Photographs in Modern Office Living" exhibit, September 16-22. Moffet Studio, Chicago, provided executive portraits, family and hobby photographs.

The exhibit of a new line of office furniture and portraits was designed by interior decorator Shirl Shender, a professional member of the National Society of Interior Designers. It included a reception room, conference room and private office.

## WHAT'S DOING

by Val Albrecht

Kay Isaacson of Algona, Iowa, and Karl Hartig of Havertown, Penn., had all four of their entries to the 1959 PPA print competition accepted in the Loan Collection. . . . The Kodak Gallery in NYC's Grand Central Station is featuring color prints by Peter Nicastro, Garfield, N. J. . . . The Hotel Lafayette of Clinton, Iowa, was the scene of a color salon by Johnson Photographers—Harold Johnson, M. Photog., G. Van Swearingen, and Lawrence H. Loth.

Robert Buskirk, a student of Brooks Institute at Santa Barbara, Calif., captured first, second, and third place in the competition of professional photography at the 1959 Los Angeles County Fair in Pomona. . . . Carl Blakeslee, M. Photog. of Tampa, Fla., is recovering from recent surgery. . . . "The Milwaukee Journal's newly appointed production manager is Robert H. Dumke, M. Photog. . . . Friends of PP of A member Yousuf Karsh will be pleased to know that he is recovering from his recent heart attack and expects to resume work shortly.

N. Morey Eames, M. Photog., gave a bridal demonstration on a Manchester,

N. H., TV station. . . . Ann and Frank Sullivan moved to a new studio location in Derry, N. H. . . . September marked the 50th year J. H. Wilbourn of Seagraves, Texas, has been in the photographic profession.

Eastman Kodak Executive Donald McMaster was honored by the Photographic Society of America with an Honorary Fellowship; C. Verne Klintworth, M. Photog., of Tampa was awarded a Fellowship, and J. Wallace Galloway was named an Associate of the Society. . . . Dr. Harold Edgerton, Hon. M. Photog., professor at the Massachusetts Institute of Technology, has received the Progress Medal Award of the Society of Motion Picture and Television Engineers.

**INDUSTRY** Joseph R. Allendorf has been appointed director of sales promotion for the Eastman Kodak Company, and Donald M. Lewis, Jr., has been named assistant director of sales promotion.

**DEATHS** Mrs. Bertha Frank Shrader, aged 85, of Little Rock, Arkansas, died last September. She had been the first woman ever to address a PP of A convention in 1925 at Oklahoma City. Surviving are her son and daughter-in-law, G. J. (Buddy) and Dolores Shrader, who operate the studio Mrs. Shrader and her husband had founded in 1910. ▲

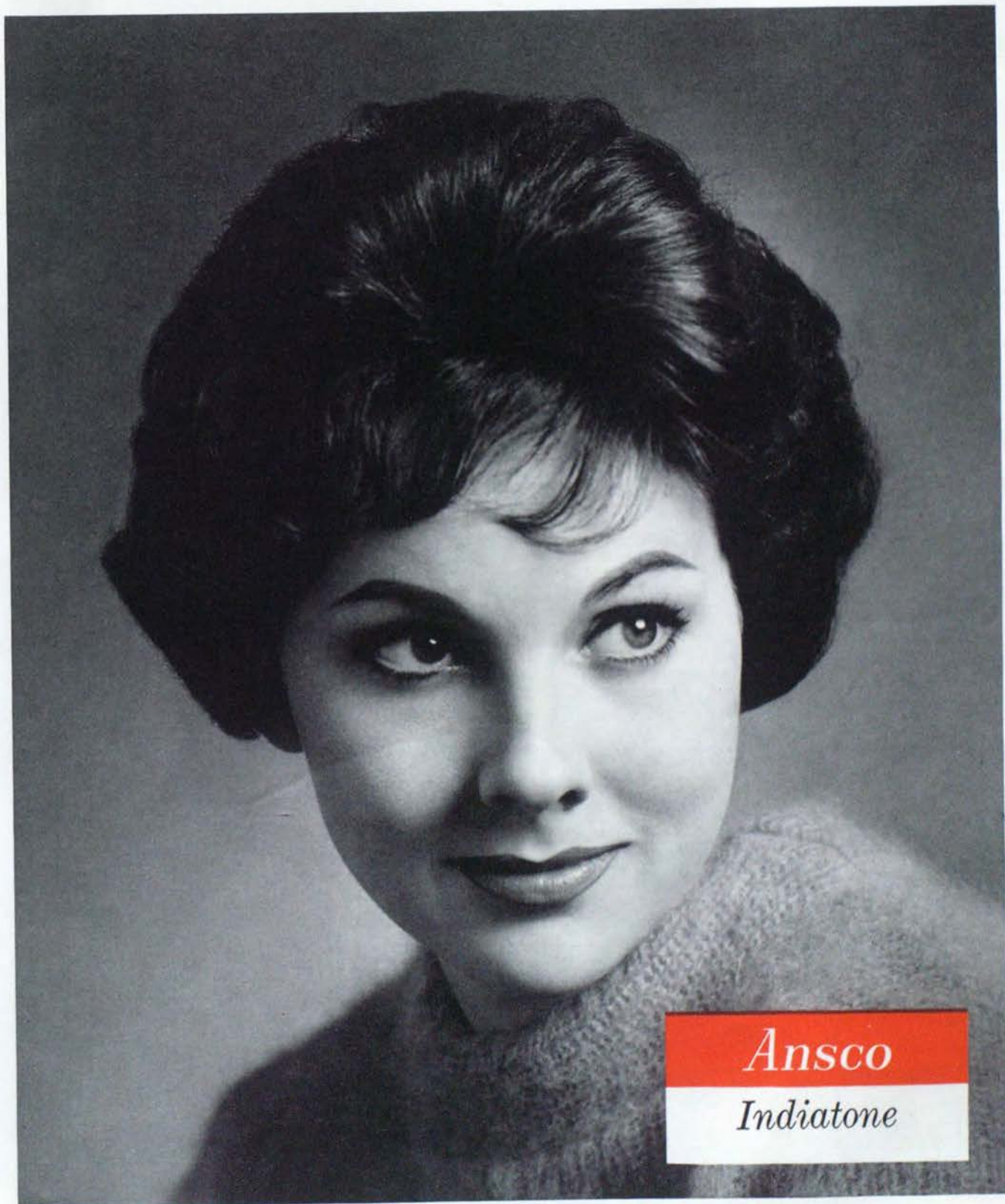


Variouly framed direct color portraits at modern office suite exhibit in Shaw-Walker showroom, Chicago. Decorator Shender achieves a masculine, cultured effect for the modern office suite, comprised of reception room, conference room and private office.

**INDIATONE**, because of its long scale, rich renditions and warm image tone has been respected as the finest paper ever produced for premium portrait work. Eminently tonable with extreme latitude to exposure and development, Indiatone® projection paper is the finest possible choice where the ultimate in quality is desired.

Try **ARDURA**® paper where warm tones and higher speeds are needed. Both papers, Ansco Indiatone and Ansco Ardura, reflect your craftsmanship in the finest possible manner. Ansco, Binghamton, N. Y., A Division of General Aniline & Film Corp.

*Portrait by Ed Toplitt, Beverly Hills.*



*Ansco*

*Indiatone*



Check this lineup of **ARKAY** "professional touch" exclusives



- FULL ONE-HALF INCH RADIUS ON ALL CORNERS AND CONTOURS
- ONE-PIECE HELIARC CONSTRUCTION
- COATED WITH ANTI-CONDENSATION MATERIAL
- HANDSOME RIGID STAND TO MATCH EACH SINK

CUTAWAY SECTION  
Showing Full 5/8" Radius on  
Inside Contour

### ARKAY "Professional Touch" Sinks

... are custom-designed especially for top craftsmen in the photographic arts. Designed for those who recognize and appreciate streamlined beauty and utility ... heavy gauge stainless steel (type 316) construction ... initial and long-range economy. Arkay one-piece construction prevents accumulation of sediment or chemicals in seams—as occurs in two-piece panel-sinks.

**ARKAY AT THE PRICE YOU'RE WILLING TO PAY—OFFERS WORLD'S WIDEST SELECTION OF DARKROOM SINKS\***

\*In Any Size from 18" x 36" to 47" x 120". ... Splash Panel, Stand and Shelf Optional. Priced as low as \$119.50. Or will design to your exact specifications.



Radically New ... Drastically Improved  
**ARKAY FILM HANGER RACKS**

Conserve time—money—patience—with the first rigid, non-rock, non-sway film hanger racks ever developed. Arkay 3-Way innovations:

1. **Quick "On-Off" Handles** snap in and out in seconds ... simplify loading and unloading.
  2. **Deep Slotted Top Sides** eliminate danger of damage caused by film-to-film contact. No rock, no sway. Hangers remain in place to shed excess solutions.
  3. **Ribbed Vertical Flat Bar on Bottom Frame** for unobstructive burst distribution.
- Made of 316 Stainless Steel. Available in 5 sizes to fit all standard tanks—including Nitrogen Burst Systems. From \$5.75 to \$7.25.

# Arkay

Please send me a free copy of your catalog illustrating and describing the complete line of Arkay photographic equipment.

ARKAY CORPORATION N-11  
1570 South First St., Milwaukee 4, Wis.

NAME \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

## I Belong



## Why Don't You?

Membership slogan seen at conventions.

A new PP of A membership campaign slogan was introduced at the Virginia PPA convention in September. Yellow badges (3"x2") with "I Belong—Why Don't You?" and the PP of A seal printed in black were worn by every PP of A member at the convention. Industrial photographer Curtis L. Bowman, E. I. du Pont, Waynesboro, Va., designed and distributed the badges, which were also worn at the New England and New Jersey conventions later in the month.

PP of A members should not miss the opportunity to see that similar badges are worn at all state and regional conventions next year.

## FTC NEWS

Representation Answer (7547)  
(Color Photos)

Leo Coff, doing business as Towne & Country Color Photographers of Texas, 2632 Swiss Ave., Dallas, has denied Federal Trade Commission charges that he misrepresents the quality of his color photographs and fails to deliver paid-for photographs, or delivers them only after extended delay.

Answering the FTC's July 23 complaint, Mr. Coff declares that "approximately 98% of his customers are completely satisfied and many of them request subsequent orders." The answer adds that "as far as respondent is aware" all "legitimate" complaints received from the other 2% "have been taken care of to the satisfaction of the customer."

According to the FTC's complaint, Mr. Coff's solicitors call on a prospective customer in his home to obtain for two dollars an order for a 5x7 so-called multi-color photograph. Later the photograph is taken, and the proof (a color transparency) is afterwards exhibited to the customer on a slide projector by a salesman.

Denying the Commission's charge that photographs ordered and paid for are never delivered or are delivered only after extended delay, Mr. Coff asserts that he is "bonded and licensed in all areas that he does business up to the sum of \$1,000 as to any legitimate complaint."

He adds that proof passers do not represent that finished proofs will be delivered "promptly" after showing of the proofs, as the complaint alleged. He says customers are informed that delivery will (Turn to page 564)

*from shooting...*



*to enlarging...*

great photographers  
depend on  
great equipment...

# BESELER



*the photographer . . .* Jean-Ph. Charbonnier, one of Europe's great photo journalists, staff photographer with world-famed Realités magazine, winner of world-wide acclaim.

*the camera . . .* Beseler-Topcon, one of the camera industry's greatest achievements, 35mm single-lens reflex with razor-sharp Topcon lenses. With 58mm f1.8 or 35mm f2.8, \$295.

*the enlarger . . .* Beseler 45MCR-X, great contribution to enlarger design, offers most versatility, highest quality construction, push-button motorized action. \$309 (Denver West \$318).



See lifetime guaranteed  
BESELER products at  
your Beseler Dealer, or  
write for complete literature

Charles Beseler Company, 219 S. 18th St., East Orange, N. J.

©1988, Charles Beseler Company



*"No, No, Egbert... this is not the time to worry about Easter..."*

Spring will come in due course, as it always does. But right now Christmas is our main concern, and specifically the problem of making sure that we won't disappoint any of our customers by being unable to produce prints promised for Christmas delivery. Please help us do so by mailing your Christmas orders as early as possible. Cut-off date for Dye Transfer Portraits is December 5, for Ektacolor Portraits December 12.

Processing • Dye Transfer • Printon • Slides  
Ektacolor Prints • Duplicate Transparencies

IF IT'S COLOR  
IT'S OUR BUSINESS



Meisel Photochrome Corporation

2710 McKinney Ave. Dallas 1, Texas TAYlor 4-2059

## The EDITOR LOOKS at.. **New Products**

Graflex, Inc., 3750 Monroe Ave., Rochester 3, N. Y., has introduced a self-contained electric motor-driven camera, the Graphic 35 Electric. A motor in the film take-up spool winds



Graflex

the film, cocks the shutter and allows sequence or single exposures; it is powered by two photoflash penlite batteries fitted into an insulated receptacle in the bottom of the camera. No attachments, cords or power packs are necessary. One set of batteries will provide approximately 1,000 exposures, nickel cadmium batteries provide considerably more exposures. Additional features of the camera are exposure automation, interchangeable-mounted lenses and coupled range-viewfinder with parallax-compensating bright frame finders for normal, wide angle and telephoto lenses. A Synchro-Compur shutter with speeds from a full second to 1/500, plus bulb, is part of the camera body. The Graphic 35 Electric, with 50mm f/2.8 lens, retails for \$237.50; with 50mm f/1.9 lens, \$275. The 35mm f/4.5 wide angle is \$59.50; 135mm f/4 telephoto lens is \$99.50. . . . A miniature (smaller than a package of cigarettes) foldaway flash gun, the Grafflash M Fan-Fold unit, in which eight folding segments open to a three-inch diameter elliptical type reflector, is available for \$4.95.

Eastman Kodak Co., 343 State St., Rochester 4, N. Y., is marketing the Kodak Roll Paper Dryer-Glazer, Model C-2 that processes black-and-white and color papers at speeds ranging from 1/4 to 8 feet-per-minute. The Model C-2 incorporates an oversize friction-drive clutch; a pressure ring seal (instead of a pneumatic tube seal on former models); (Turn to page 559)

new

# PHOTOGENIC STUDIOMASTER

4-power Push Button Intensity Control Speed-Lite  
. . . Variable light pattern with adjustable controls  
for concentrated modeling or broad floodlighting.

- **PUSH BUTTON SWITCH**—Various colored, illuminated push buttons indicate at a glance the power at which each light is operating. Low level for soft focus to higher intensities for color from 25 to 200 watt-seconds. Simultaneous modeling lamp intensities are in relation to the flash intensities.
- Adaptable for either Phototube triggering (standard) or new Tripmaster high frequency radio control (optional at extra cost) which triggers all lights simultaneously, even on lowest intensities.

**FLASH DURATION**

1/1000 seconds

**UNITIZED CONSTRUCTION**

Convenient parts replacement

**ROTATABLE BARN DOORS**

Perfect light control

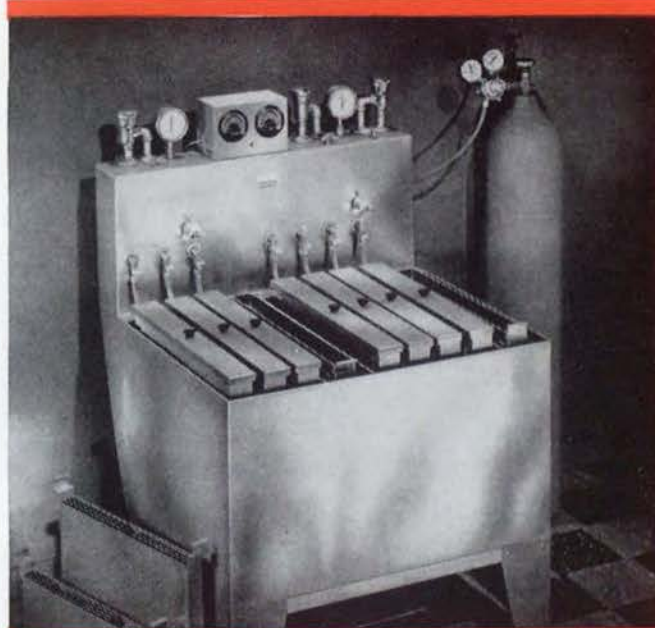
For further  
information see your  
Authorized Photogenic  
Dealer or write direct.



# why calumet color processors turn out clean sparkling prints up to 20" x 24"

**1** Nitrogen Burst agitation and temperature control assure clarity, uniformity

**2** Calumet Streak-Free Processing Basket\* eliminates all "screen marks" on prints



**CALUMET'S** tight light-proof covers enable you to process your color prints in normal room light!

← 16 x 20 Calumet Color Processor for 16 x 20, 11 x 14 and 8 x 10 color prints. 3½ or 10 gal. capacity

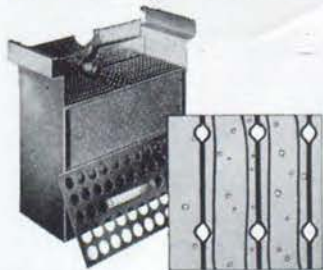


11 x 14 Color Processor for 11 x 14, 8 x 10 color prints, 3½ gal. tank capacity



20 x 24 Calumet Color Processor for 20 x 24 prints, 10 gal. tank capacity

## Special Calumet Streak-Free Processing Basket



Calumet Processing Basket, divided by partitions in which prints are placed, has curved protrusions on each partition wall which keeps print from touching wall. Fluids pass between paper and walls when solution is agitated. This unique basket carries a guarantee—never to cause marks on prints. Cut-away top makes it easy to take prints out.

Now you can process color prints in sizes 8 x 10, 11 x 14, 16 x 20, and 20 x 24 inches...and be **SURE** they will be wonderfully bright and clear

Among the many reasons why Calumet Color Processors get such superior results in processing color prints are the advance features you find **ONLY** in Calumet equipment. These features are illustrated and spelled out in a fascinating 12-page color processing catalog. You owe it to yourself to read and keep this booklet on your reference shelf. It opens wide the informative door to the new world of color. Get your copy now!

*FREE 12-page COLOR PROCESSING CATALOG...WRITE FOR IT...limited edition*

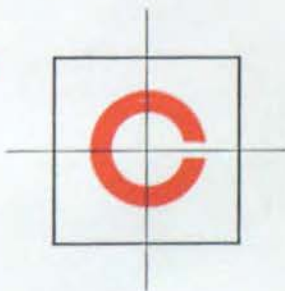
\*patent applied for

# Calumet

MANUFACTURING COMPANY

6550 N. CLARK ST., CHICAGO 26, ILL.

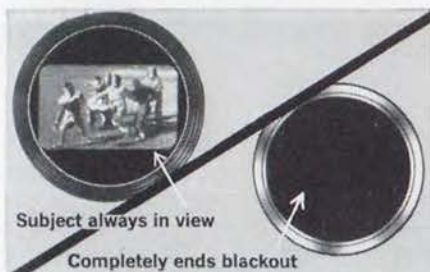
*Manufacturers of Cameras, Photographic Processing, Studio and Laboratory Equipment*



# Whatever you want in an automatic Single Lens Reflex System —you'll find it in the Minolta SR-2



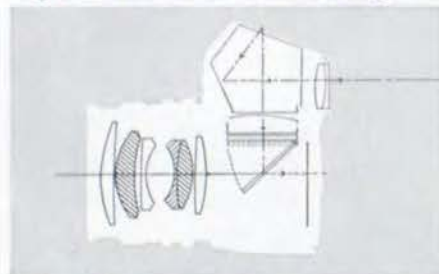
**Automatic Diaphragm**—Advance the single-throw, film-wind lever and the diaphragm opens to its largest opening; film advances; shutter is cocked, counter registers—all in the blink of an eye.



**Instant Return Mirror**—Press the shutter release and instantaneously diaphragm closes down to pre-selected aperture; mirror clears, film is exposed; mirror returns—blackout is entirely eliminated.



**Standard lens**—Automatic Rokkor f:1.8 —55 mm, 6 element. All lenses are ultra-precision crafted of rare earth, in platinum pots with a special double coating that eliminates the need for a UV filter.



**World's brightest viewing system**—Condensing and fresnel lens system provides ultra bright fine grained image. Even with glasses, you can see all 4 corners.



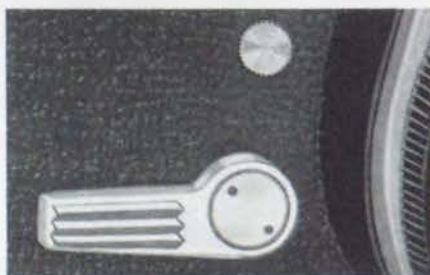
**Single non-rotating speed dial** from 1 to 1/1000 second and bulb locks into place. Can't be jarred or delayed by accidental touch of your finger.



**Wide Variety of Lenses:** 55 mm, f:1.8 — 100 mm, f:3.5 — 135 mm, f:2.8 — 35 mm, f:2.8 — 55 mm, f:1.5 — 180 mm, f:2.5 — 250 mm, f:4 — 600 mm, f:5.6



**Rapid Rewind Crank...** Magnified Exposure Counter... Automatic Zero Return.



**Unique Self-Timer**—Even though cocked, instantaneous exposures can be made.



**Vast Line of Accessories**—now available. More on the way including motor drive.



You get all this camera with an Automatic Rokkor f:1.8, 55 mm, 6 element, rare earth, double coated lens — for only \$249.50. At all authorized dealers.

# MINOLTA

MINOLTA CAMERAS • 150 BROADWAY, NEW YORK 38, N. Y.

Distributors—U. S.: The FR Corporation, 951 Brook Ave., New York 51, N. Y. • CANADA: Anglophoto Ltd., 880 Champagne, Montreal 8, Quebec, Canada



## PICKING PROMOTIONAL PARTNERS

by Hillary G. Bailey, Hon. M.Photos., Director  
Salescraft Marketing, Atlanta, Georgia

*The author of this discussion is a professional marketer, but he is not in a position to handle retail accounts. What he says, therefore, is not to be construed as an indirect solicitation for accounts. He could not accept them if requested.* The Editor.

MY MAIL is punctuated repeatedly by letters from hard-working and forward-looking photographers who ask where they may find dependable and professional advertising help. Often these requests come from men who have tried local agencies which delivered no business or too little for the cost. Such requests are really serious because I do not have a ready answer.

I wish I could say, "Look in the Yellow Pages of the telephone book." But finding an advertising service isn't that easy—one that knows how to persuade people with money to spend, to spend it, that is!

### Differences in Quality

Despite the differences in available "quality" which professional photographers insist (often vociferously) plagues the photographic business, the chances of getting good photography by selecting at random from the telephone book's yellow pages are many times better than the chances of finding a "professional persuader" who knows why people buy photographs after employing a similar selective process. If there has been bad photography palmed-off onto an unsuspecting public to deprecate a revered profession (and there has) still there has been ten times as much bad advertising foisted onto trusting and hopeful buyers.

For instance, in one metropolitan city known around the world, there is one advertising agency now some five or six years old, whose owner had one year's roustabout experience in the basement sales of a big department store. That "brush and mop" experience and his father's money qualified this fellow to be a professional advertising expert. The harm he has done for all these years is unbelievable, although somehow he stays in business.

In the same city are two additional agencies both of which are operated by men who at one time had tried to peddle display advertising space for the local newspaper. Their sales were too small to keep the wolf from the door or the newspaper bosses placated. Both got fired. Both opened advertising agencies and strangely enough have talked enough trusting clients into spending money with them so that they are still mutilating business today.

Since these agencies and others almost as incompetent

are listed in the yellow pages, and since similar situations exist in all big cities and some not so big, it is not safe to point to those pages as a reliable guide from which to select advertising skills. The good agencies are there, no doubt, but how does the photographer know the good from the bad?

(It is a temptation right here to ask how a buyer of photography is to know who the good photographers are when all of them—good and bad—claim to be good. Seriously now, how is that question to be answered?)

### Sales Revolution

Within the last few years, the profession of photography has become more interested in sales and how to make them, than it was for the whole first century of its existence, thanks to its recent, hard-working leaders. (Each one of them deserves a golden halo.) In fact, a complete revolution, which many prophesied never would happen, has occurred and the importance of soliciting business by dignified methods has assumed its proper place in the policies and practices of the professional photographer.

But . . . the photographer simply can *not* be an artist, a skilled camera manipulator, a technician, a darkroom specialist, managerial worrier, investment authority, and a skilled promotion and advertising expert all wrapped in one skin. No doubt, professional photographers are supermen, but even a superman cannot be a jack of all trades without being a master of none. There is a limit to human achievements. As a result, many skilled artists and craftsmen would like to find capable help to take over the promotion and advertising. Currently, these men are up-a-tree.

### Create Consumer Acceptance

The National Association has and is doing wonders with the small budgets with which it may work. The selection of some new slogans which it was the honor of this writer to create, and the use of several newspaper mats is a very good basic step. However, *an association cannot possibly create business for its members.* It may help to *create consumer acceptance*, but it cannot make sales.

The actual teaching of customers to *appreciate, to need, to want, and to buy photography must be done at the local level.* Unlike impulse items, that chore cannot be done by mechanical dispensers, except for a very small business that results because of the promotion of institutional photography. Some consumer attention can be attracted on a

national level, and a certain amount of favorable climate for later sales may be created by the many manufacturers and the Association, but the actual sales, the follow-through, the separating of the customer from his money, the lending of the fish, or however you may wish to state it, *must come at the local level where the buyers are with their pocket-books.* No amount of wishful thinking and nebulous dreaming by eggheads can make it otherwise.

#### Avoid Neophyte Student

So, where does the photographer get his help? Certainly *not* from non-professional eager-beavers, although it is human nature to try to get tips from these "cheap advice boys" believing it to be grass-roots information. It isn't. It's tommyrot invariably.

A poor professional advertising agency is still better than what the free-advice joker produces by talking off the top of his head instead of from experience no matter how limited. And of all the people to be avoided it is the neophyte student taking a general course in selling taught by an academician who never sold a nickel's worth of anything in his or her life. The messes some of us try to salvage!

There are a few questions a photographer may ask an advertising man that will tend to deflate his egotism enough for the photographer to make a bit of an appraisal of his ability. His claims, and nothing more, are as worthless as the photographer's claim of greatness without positive substantiation. To boast doesn't make it so as Hitler found out.

*First — Ask him what he would do with a portrait of himself if he had one.* The chances are that all he has is a newspaper "mug shot." If he cannot enumerate ten to a dozen practical uses for portraits, write him off the list.

*Second — Ask him which media he prefers and why.* If he selects a mass media (television, newspaper, radio, billboards and the like) do some sharp pencil figuring. Calculate how much business the non-advertising photographer down the street will benefit at your expense.

#### Waste in Mass Media

As an example of how waste is prevalent in mass media, almost every city of some size has an advertiser over radio or television who is so located that an impelled customer would not travel the distance necessary to get the item but would buy it closer at hand. In Atlanta currently a west side hardware store is buying very expensive television time to sell nuts, bolts and utility items. If that advertiser thinks I'm nuts enough to drive 20 miles to buy what I can get three blocks down the street, he is as stupid as the advertising man who sold the air time.

Once upon a time it was believed that a photographer's reputation would cause people to drive long distances past other studios to get his service only. There were and still are a few such instances which warm the heart of the photographer, but there are many, many times over instances when the nearest man gets the business that the guy with the reputation knows nothing about.

*Third — ask the prospective professional persuader what the differences are in your particular market between the mass media coverages and the selected market promotion possibilities.* (Most photographers can sell themselves only by selected market appeals.) Unfortunately nine out of ten

(Turn to Page 559)

# DIRECT COLOR PORTRAIT SURVEY

Professional Photographers of  
Northern California, Inc.

OF THE studios interviewed, two-thirds employ a camera charge or charge for making the sitting. The other one-third have the camera charge incorporated in the first print price. One studio uses a camera charge if more than a basic minimum of four poses is needed for selection.

Of the studios using a camera charge, these charges varied from a minimum of \$5.00 to a minimum of \$12.50 and up, depending on numbers of poses, costumes and background changes. In the studios using camera charges, print prices ranged from:

	LOWEST	HIGHEST	EACH AFTER TWO
1 — 5x 7	No figures given		
2 — 5x 7*	\$25.00	\$ 29.75	\$7.50 to 10.00
1 — 8x10	19.95	27.50	5.00 to 12.50
3 — 8x10	39.00	57.50	
1 — 11x14	40.00	49.00	
1 — 16x20	69.00	129.50	

Of the studios not using a camera charge, these prices prevailed:

	LOWEST	HIGHEST
1 — 5x 7	\$15.00	\$ 34.00
3 — 5x 7	22.50	46.00
1 — 8x10	19.95	38.00
3 — 8x10	29.00	54.00
1 — 11x14	40.00	44.00
1 — 16x20	60.00	110.00

\*With the minimum camera charge in the survey, two 5x7's would range from \$33.00 at one studio to a minimum charge of \$42.25 at another.

Most studios did not list wallet size or miniatures on their printed prices; those that did had prices ranging from \$5.00 with a camera charge to \$30.00 without a camera charge for one wallet.

Even though quite a wide variation in prices was shown, no definite pattern could be established between studios with their own color lab and those utilizing outside services.

It seemed interesting to note that in studios using a camera charge, the minimum price for two 5x7's was more than the minimum price for three 5x7's in studios without a camera charge.

In 11x14 size only, most studios quoted a price of \$40.00. One studio was \$44.00, one \$44.50 and one \$49.50. This similarity held regardless of whether or not a camera charge was used.

July 1, 1959 — Survey Conducted by

Ted Gurney, Portrait Chairman  
PP of NC Survey Committee ▲



# WINDOW DISPLAYS THAT TALK!

by Pat and Dave Woody

WINDOW displays talk to the passers-by, inviting them into the studio. However, there are several important items to remember regarding a successful window display program.

First, keep a record throughout the year of possible samples which give ideas for particular promotions. Select photographs of those who will probably buy them after use in the display. Second, match all prints for each pro-

## WARNING!

Recent unhappy events involving photographers and their clients have prompted us to repeat this warning:

When a photograph of a person is displayed publicly, even in a window or at a convention, a model release should be obtained in every instance.

When a photograph of a person is used for advertising purposes, a model release *must* be obtained.

— The Editor.

motion for good balance, both in appearance and color. Third, be very careful in selecting your materials for backgrounds and trimmings. Remember, you are selling the portrait idea and some materials will overpower your work. A wonderful help in decorating windows is a subscription to *Display World* magazine, 407 Gilbert Ave., Cincinnati 1, Ohio. Each issue

contains ideas and aids in selecting materials and tells where materials can be purchased.

The following shows the cost of materials for two average windows, and how we compensated for the expense involved:

1 roll display paper, 48"x25' .....	\$ 5.10
8 yards drapery, @49c per yd. ....	3.92
2 foliage arrangements .....	7.90
Total .....	\$16.92
Sold: One 16x20 oil-colored sample, with frame .....	\$59.50

One of the most useful items in planning your displays is a calendar listing all special days and weeks for the year. This calendar can serve as an outline for promotions from January through December.

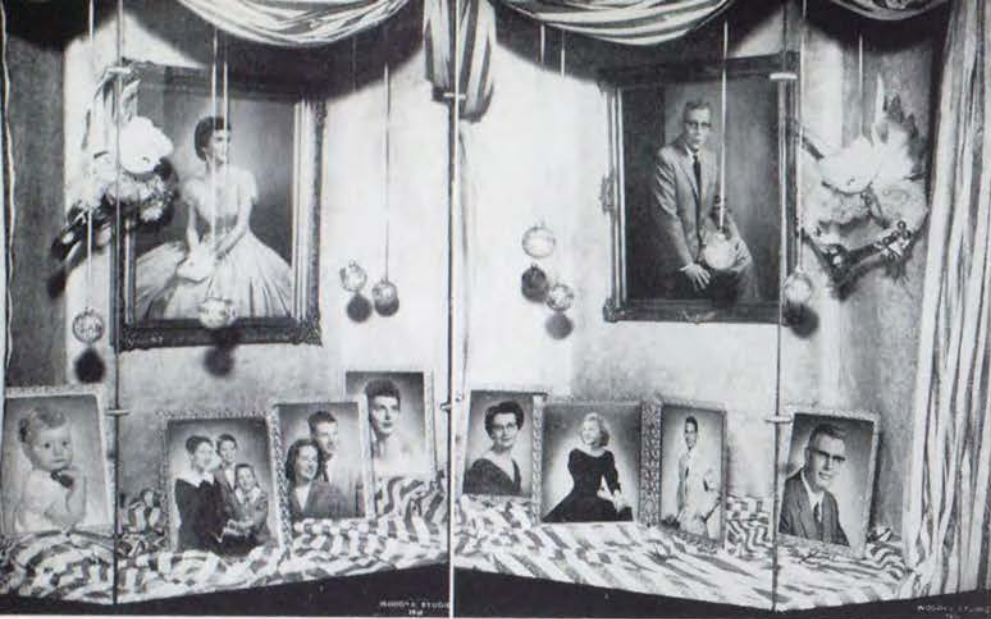
It is a good practice to plan your windows one month in advance. Have your prints ready, the display materials ordered and all preparations made. Complete the display at least one month before the special occasion. This gives the studio plenty of time to finish orders without the usual rush. Window displays can be carried in conjunction with your direct mail and local newspaper advertising schedule.

One of two matching Valentine windows (other features portraits of young boys). Frames in ivory and gold, background is crinkled dull yellow-gold display paper. Valentine foliage is in red hearts, gold buds. Floor is covered with single layer of red netting. Miniature frames are in folds of net.

Colorful and expressive portraits that talk and friendly, familiar characters in the window put a sparkle in the eyes of the little folks looking in. Background of window is spring green and white; balloons, pale yellow and pink. Portraits hang on white ribbon. Flowers are pastel pink, green and yellow organdy. Floor covering is pastel pink organdy. Toys, given as door prizes to children photographed during Children's Week, are pink dog, yellow and white clown, yellow and red monkey. Sailor hats on the animals proclaim that this is "Children's Week."

January can be a bright introduction to the new year, promoting Valentine's Day in advance, and what more appropriate subjects than teenagers or young lovers, suggesting to them a gift that is surely personal? Our card files show us who did not order 11x14 or larger portraits at the time the order was placed. This can be another opportunity to sell the samples used. Valentine windows should avoid or





Two matching windows. Background is white and rubbed gold, drapery is white, gold striped plastic. Large oil-colored portraits (24x30) are in gold leaf frames. Smaller portraits (11x14) are in gold and white frames. Gold-winged Christmas angel hangs from ceiling; angel is white lace, trimmed in gold, green and white sparkle, holding mandolin of gold and green. Bulbs are gold, green, blue, with inscriptions "To Dad"; "To Mom," etc., with spray glitter.

use sparingly the color of red. This color should especially be used sparingly with color portraits, as the emphasis should always be on the face.

February brings us to an introduction to spring. These windows can be most colorful. Last year we used pictures of local dancing students and a five-year record story in portraits of a child. Prints used were selected from our negative files. This type of window tells a story and sells an idea to the parents. The February child display also promotes a big occasion coming up in March. Another February spring window suggestion is one showing portraits of young ladies and young gentlemen in formal attire. This can also promote large color portraits for the home.

#### Children's Portraits

March is a wonderful month to promote children's portraits in many ways. National Children's Week falls in this month. Not only can your window displays work for you, but there are many inexpensive ways to get word to children about the big celebration in their honor at your studio for a complete week. Advertise to the kiddies, use original ideas they will see and talk about, you can be sure that mom will hear about it! The windows must be gay and inviting to the little tots. You can use toys, gimmicks or animals to appeal to them.

April, if promoted early and intelligently, brings us to a busy month. Appeal to the high school graduates, showing them you are proud of this big occasion of their life. Design a window showing the past, present and future of two local young folks (a boy and a girl) from their first year in school to the present, emphasizing graduation.

#### Graduates and Brides

Another April window resulted from writing the principal of each high school in our county in regard to a display of a photograph of the valedictorian and salutatorian of each school. We arranged a sitting date and sold all but two of ten prints after using them. In the window was a large silhouette photograph of a graduate receiving her diploma. The background setting was yellow; the portraits were in matching frames and were identified by name and school.

May can also be used for graduates



The Woody's Studio is located in Welch, W. Virginia, a town of 8,000. In business for ten years, Pat and Dave Woody began in a basement and are now in a main street location, have three employees. Dave is a graduate of the Baltimore Institute of Photography and has attended Winona School of Photography. Together they have presented to local civic and social groups a program titled, "The Value of a Portrait." The Woody's have had prints accepted at the last three annual PP of A Print Exhibits.

on to the middle of the month which brings us to the atmosphere of June brides. A wedding story using candid pictures on a revolving table can be aimed at the prospective brides, showing the radiance and beauty of a bride's special day in portraits. The bridal displays can be varied through June and July using pictures of local weddings.

#### Profitable Ideas

For a change between special promotions there are several unusual ideas that have proved quite profitable. We have used the children theme showing several items available at our studio and featuring our "Tiny Tot of the Week." We of course promote "Portraits-in-the-Home" at every opportunity. Last year we used a large oil



Oil-colored portrait (24x30) of bride framed in glazed white. Background is bridal blue satine, with white satin floor covering. Foliage is white artificial apple blossoms. Candelabra and pedestal are in glazed white. Albums, invitations, accessories are shown.

portrait framed in dull gold (24x30). We decorated the window with a wrought iron table and brass TV lamp, bronzed shoes, framed miniature portrait and a planter. The background was of rust corded display paper, giving a dimensional effect of another room. A rust satin rayon drape was used to one side. This window brought many inquiries on how to decorate with portraits.

#### Cooperative Promotions

In July and August we tie in with the local Chamber of Commerce on merchant's promotions. For example, our Old-Fashioned Bargain Days windows featured photographs (some in antique frames) of the merchants at an early age and scenic pictures of local interest. In one window we offered the suggestion, "Let us copy that old faded photograph and bring it back to life." This was a very profitable suggestion. One of our windows carried the theme of Boy Scout Week, showing local Scout activities. It pays and builds good will to cooperate in these promotions.

We do not forget the prominent men of our community. Another August window displayed portraits, 16x20 and larger in oil color, framed in handsome wood finishes. The window background was a deep brown corded fabric. The floor covering was of brown rayon material.

#### Christmas Windows

September is a beginning of Christmas promotions in our studio. In one window we introduced a little girl in photographs showing her from three

months to six years of age. There was a composite print, a 16x20 oil-colored portrait and a large background mural showing the little miss entering school her first day. Promotions such as this will bring customers in each year.

September and October can be used in many ways. We once tied in with the Junior Chamber of Commerce who were sponsoring a special college football game. Our connection was photographing the entries for a "Miss JC" competition. We displayed 11x14 portraits in oil of each girl. The Junior Chamber purchased these as gifts to the entrants. This was a simple and quick way for extra profit and we used our windows to the best advantage.

#### Family Groups

November of last year the Christmas gift promotion on Ed Sullivan's TV show was a good idea for using an actual TV set in one of our windows. We borrowed one and a few matching accessories, such as a brass TV lamp and planter. The frames matched as they were modern in black and white finish. The background was a soft grey. The floor was covered with black velvet. Another good subject for November is an entire family, from individual portraits to a family group. These are suggested for Christmas gift-giving.

December continues with the Christmas theme. We receive many favorable comments on these windows. We use various ages of children and adults to promote the idea of portraits for Christmas. On Christmas Eve we remove all portraits and use an unusual character study which is significant to



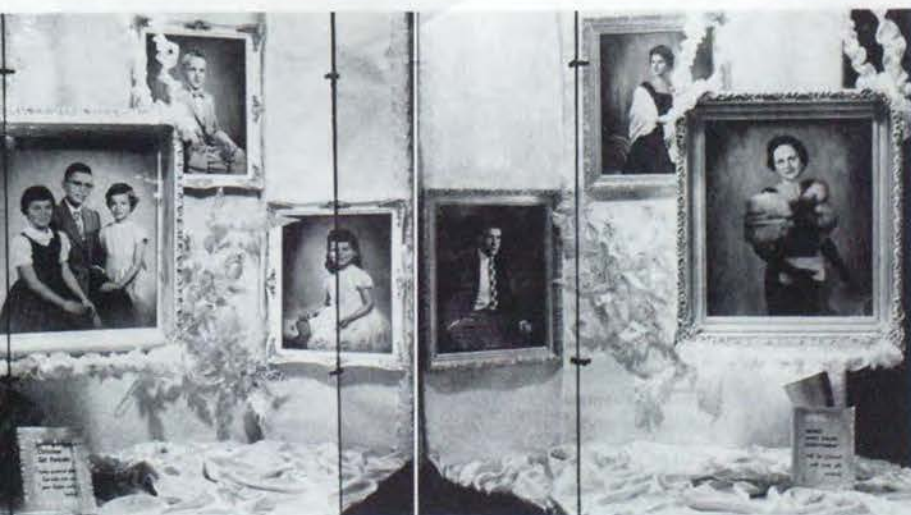
Boy Scout Week window has Scout activities. Background and floor are in pale yellow. Reprints of photos and 11x14 portrait sold.

the meaning of the season: An elderly person with hands folded in prayer, or a child asleep, or a local minister with a Bible clasped in his hand. Any of these ideas and many others can give you an appropriate window.

#### Change Often

Change your samples as often as possible, plan ahead and keep samples available so that changes can be made at least every two weeks. Keep the public walking on your side of the street. Add a few words in your newspaper ads regarding a special window display or inform your radio announcer of these changes. In direct mail we often mention our recent window displays or refer to a special promotion.

We realize very few studios are fortunate in having large window spaces for displaying their work, how-



These two matching Christmas windows required more work than most. Background paper is white with gold and white sparkle fleck finish. Portraits on walls (16x20) are in matching white and gold frames. Larger portraits (20x24), in white and gold frames, were placed on oval wood bases, then covered with background material. Foliage is of pink, gold and white sparkle. Floor covering is pink rayon satin. Variety of ages make children's and adult windows pleasing.



Children's window has pale blue and white tweed paper background, pale blue rayon drapery, and pink floor. Frames are pink, blue. "Tiny Tot of the Week" is featured. Window has bronze shoes, frames, albums.

ever, even with one small showcase, you can promote any occasion.

For photographers located above main street locations, and without display space, offices, lobbies and other places offer possibilities. Almost any size show case used outside your building will more than pay for the expense.

#### Be Original

Use simplicity, variety and imagination in planning your window displays. Be original! Use your own ideas and observe other store windows and how they use decorations and color schemes in promoting a particular season or event.

From our experience, here are some tips we would like to pass on. Don't drown out your portraits with too many colors. Use frames suitable for a particular type of portrait. Use props and decorations sparingly. Keep your windows active, expressive and eye-catching. Show familiar faces in pleasant surroundings. Let your public do your advertising for you, and they will . . . but give them something to talk about!

#### Lasting Pleasure

Remember that only *you* can produce a portrait of a living likeness, only *you* can produce your own product or preserve a face of a loved one that will be lasting pleasure to those who will value them. Let the public know this and impress on them the value of a portrait, and of the time involved in producing quality portraiture. Successful window displays will help you tell your story. They are traffic builders that can lead to extra profits. ▲

Tie-in with the Jr. C of C-sponsored football game featured "Miss JC" entries.



Partial view of window of childhood, graduation and present portraits of local young people. Spring green background and soft pink side drape and floor covering. Portraits on wall are mounted on white paper, then on brown corded material. Portraits on floor of window are in provincial wood frames. Foliage is spring pink with colorful birds.

Christmas green background with white sparkle finish. Tree is of white angel hair sprayed with green and red glitter. Portraits are tagged "For Mom"; "For Dad," etc. Floor is white satin. Six portraits from two windows were also sold for Christmas gifts.



#### CONVENTION REPORT

If you are not a member of the Professional Photographers of America, Inc., you will not receive the official Convention Report of the 1959 Exposition of Professional Photography and National Industrial Photographic Conference. The second installment of the Convention Report is at right in members' copies only of this issue of *the National Photographer*. For further membership information, write to PP of A, 152 West Wisconsin Avenue, Milwaukee 3, Wisconsin.





# The 1959 PP of A Exposition of Professional Photography

JULY 25 – AUGUST 7, 1959

The following continues the publication of the Convention Report.

## INDUSTRIAL

### INFRARED PHOTOGRAPHY

Paper presented at Edwards Air Force Base, Calif.

by Karl-Heinz Lohse  
(Karl-Heinz Lohse, Senior Engineer, Display Dept.,  
Operations Central Project, Aeronutronic Systems, Inc.,  
2701 Halladay St., Santa Ana, Calif.)

Today infrared photography is used in such a multitude of applications that it is indeed difficult even to list all the various uses. It is not my intention to attempt this. However, since every day new applications present themselves, it is quite important that somebody entering this special field can deal with the associated problems. Infrared photography is not new; for many years we have seen excellent examples of infrared renderings of landscapes. Science, medicine, and crime detection employed infrared photography with success. In recent years more and more industrial photographers encounter photographic problems which require the use of infrared photography. According to this introduction, then, there should be hardly any mystery about the use of infrared photography. And yet, it is surprising how often the basic principles are not clearly understood.

It is the object of this paper to supply some basic information concerning infrared photography so it may be helpful to an individual photographer who intends to use infrared photography for the first time and may find the information useful for a number of different applications.

#### Radiation

When we talk about infrared photography we often are not clearly defining whether we record an infrared image or illuminate with infrared radiation, or are trying to measure temperatures, or are trying to photograph heat. There is indeed confusion. Let us begin with heat. There are three modes of heat transfer: convection, conduction and radiation. In infrared photography we are only concerned with the third mode; namely radiation. At one time it was supposed there were three distinct kinds of radiation from a luminous source: thermal,

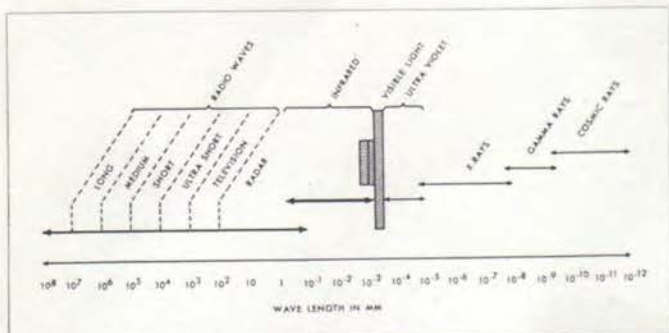


Fig. 1: Electromagnetic spectrum shows tiny portion is visible light.

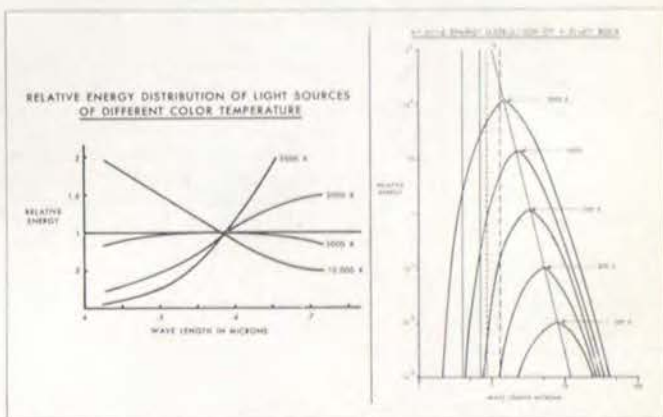


Fig. 2 (left): Relative energy distribution for light sources, Fig. 3 (right): Energy distribution of black body at various temperatures.

luminous and actinic radiation. It is now common knowledge that heat, color sensation and chemical action are merely different effects from the same kind of radiation; the effect depending on the frequency and intensity of the vibration.

Since you are thoroughly acquainted with the photography of visible radiation or light, this type of photography is the logical starting point to enter the field of photography of invisible infrared radiation.

If we look at a modern representation of the electromagnetic spectrum (Figure 1) we see that only a very tiny portion of it is visible light. We know furthermore that ultraviolet and infrared radiations follow, like the visible light, all the major optical rules; such as straight line propagation in homogenous media, reflection and diffusion laws, same velocity in free space, phenomena of diffraction and interference, selective absorption, polarization and so on. The main difference being that our eyes cannot see these radiations. While the visible light covers the range of wavelengths from about 400 to 720 millimicrons, the infrared radiation covers a range many times as broad from the end of the dark-red visible light to a wavelength of about one millimeter where it merges with the radiowaves. For practical photographic reasons we are mainly concerned with that portion of the infrared spectrum which is an extension of the visible light spectrum. The near infrared from about 720 to 860 millimicrons is by far the most important region, because most infrared photographs are exposed to this radiation. However, for scientific purposes the far infrared from 860 to over 1300 millimicrons wave length is of great interest.

Let us now recall how the relative energy is distributed for some light sources at different color temperatures. If we assume the energy of the green portion of the spectrum to be a unit we can see in Figure 2 that the red and blue portions vary, depending on the color temperature. In this fashion we can estimate color temperatures by comparing the amount of blue and red energy. We can use the same diagram to extrapolate into the near infrared region.

How is the energy distributed in the infrared region? One ac-

curate physical means to study the infrared region is a so-called black body. Such a black body is a perfect radiator for which the emissivity equals the absorption. Studying the relative energy distribution for such a black body at various temperatures as it is shown in Figure 3 we find that the largest portion of the radiation is in the invisible infrared region. However, the higher the temperature of a radiator rises, the more will the peak of the energy curve move closer towards the visible region. A further explanation is the well-known fact that if we heat a piece of metal it will eventually become self-luminous as soon as its energy curve enters the visible light region and the metal begins to glow dull-red. By heating it further, it becomes brighter until we can use the term of "white-hot." At this moment the energy curve expanded through the total visible light region. But, let us not forget that at all times by far the largest portion of the radiation is in the invisible region.

Therefore, any photography of self-luminous events is quite incomplete without the photographic information concerning the infrared region of the spectrum.

### Infrared Photographic Materials

Many photographic manufacturers supply infrared sensitive materials and the industrial photographer finds himself confronted with a remarkable list of available emulsions, which may differ as much from each other as an orthochromatic emulsion differs from a panchromatic emulsion. Only if the sensitization and character of the material is thoroughly understood, can the photographer make a proper choice.

As we had discussed before, by far the most important infrared region is the one covering the wavelength from 720 to 860 millimicrons. Consequently, for this region, a large variety of different materials is available; especially, the materials which are designed for spectroscopic and astronomical uses are equally valuable for industrial infrared photography, if properly selected. The same general considerations which govern the choice of light sensitive films apply to infrared photography. We have to choose according to sensitization, speed, contrast and granularity. The resolving power deserves a special comment. As we know from visible light photography, the resolving power is higher for shorter wavelengths than for the longer ones. Consequently, the resolving power will be lower in the infrared region. For scientific applications it is therefore very important to select an infrared sensitive film or plate with extremely favorable resolving power characteristics.

Another important film property, which is observed in all photographic materials, is the reciprocity law failure. Since the reciprocity law failure characteristics of the selected materials are not always accurately known, it is necessary in the infrared applications, concerned with photographic pyrometry, to use as temperature reference a source which will permit a similar exposure for the source as for the test. In other words, any reference exposure which would differ considerably in length from the actual test exposure, would require a computation involving the reciprocity law failure of the material. The normal error would be prohibitive for any exact temperature measurements. The beforementioned reference exposure is quite important, because any thermal image represents with its gray tones only a relative temperature. Unless we include in such photograph, one radiation source of known temperature, we have no way of estimating the temperatures corresponding to the various gray tones.

### Sensitivity

If we look at the sensitivity of a typical infrared material, as shown in Figure 4, in this case the Kodak I-R plate,<sup>1</sup> we find that the plate is not only sensitive to infrared radiation but equally sensitive to the blue portion of the visible light and even to some U-V radiation. It is therefore absolutely necessary for any infrared photography to employ suitable filters to prevent the blue light from reaching the film. For accurate infrared photography, one should select a material most suitable for the particular region of interest. For the near infrared region, you may choose from the Kodak Spectroscopic plates for instance between the K, N and R sensitizations, for work in the next infrared region type M sensitizing is most suitable, specifically from 860 to 980 millimicrons, and finally type Z sensitizing from about 1000 to 1150 millimicrons.<sup>2</sup> The last two types, M and Z, must always be hypersensitized for practical use. There are various methods of hypersensitizing plates, however, the manufacturer recommends<sup>2</sup> a 3-minute bath in a 4% solution of 28% ammonia at 55° F and rapid drying. Such hypersensitization is often also indicated for other infrared materials especially if low levels of radiation are encountered.

Sometimes latensification, by means of a controlled infrared pre-exposure may prove beneficial. Other choices concerning the material

such as high sensitivity, and high or low contrast can be selected when ordering the material. For 16mm motion pictures or high-speed photography, only the standard infrared sensitization (I-R) is available. For this medium latensification is generally preferred over hypersensitization; 35mm film rolls are supplied with an opaque leader and it is necessary to advance three frames before making the first exposure.

The processing of infrared materials represents no special problem. One may choose from a number of standard developers, depending whether high, normal or low contrast is desired. Although infrared materials should be processed in total darkness one may use for brief periods a number 7 safelight.

### Handling Materials

Now a word to the handling of infrared materials. The keeping properties are generally poor. Refrigerated storage is always necessary. One should also be aware of the fact that since the material is infrared-sensitive, the mere protection from light is not sufficient. For instance, a film loaded in a camera having a focal plane shutter may be exposed to infrared radiation penetrating the shutter material. It is a well established practice for any photography near furnaces or other strong radiators to keep the films well protected until the actual exposure can be made. If such simple rules are observed, no footage will be lost due to infrared fogging, a frequent danger in the case of high-speed photography of self-luminous events.

Let us talk about filters. From the infrared-transmitting filters, one may choose the filter most suitable for the desired range. Wratten filters 70, 89A, 88, 88A, 87 and 87C are designed to transmit infrared radiation from the deep red of 660 millimicrons to the middle of the near infrared band of 800 millimicrons, in respective increments.<sup>4</sup> For pictorial infrared photography the Wratten filters 25 and 15 are frequently used, controlling the infrared pictorial effect. For more accurate studies, one will have to resort to more elaborate filtration.

In recent years, considerable progress has been made in the field of double-coated interference filters. The advantage of such modern filters is that they reflect the unwanted spectral portions rather than absorbing them. The benefit is two-fold: one can obtain highly accurate filters which transmit only radiation of a well limited spectral range, and reflect the rest readily. As an example, an infrared transmitting reflector supplied by the Fish-Schurman Corporation is shown in Figure 5.<sup>5</sup>

From the foregoing, one may well appreciate that for a certain industrial process, one can develop a suitable infrared photographic method by carefully choosing the proper film (or plate) and matching filter to obtain a reliable record.

### Exposure Determination

We are assuming then that the exposure is perfect. Those of you who have had some experience with infrared photography will agree that the perfect infrared exposure represents quite a problem and it may well be worthwhile to discuss the exposure determination.

Generally, our first experience with infrared materials leaves us bewildered. We were used to receiving, from the manufacturers of light sensitive films, a reliable exposure index and by reading our light meter correctly we had a reasonable chance of arriving at a good exposure. Did you ever try this method with infrared film? The exposure was a hit or a miss—you receive from the manufacturer a tungsten exposure index of 8, 20, or 35 as the case may be, but you intended to use the film outdoors.

The first experience with infrared films is often so discouraging. Let us analyze the situation. Our light meter measures, as the name implies, light, and cannot give accurate reference for infrared radiation. Many photographers have developed, through years of experience, a reliable judgment of basic black-and-white exposures. But, how much more difficult it is to judge color temperatures. We are using, there-

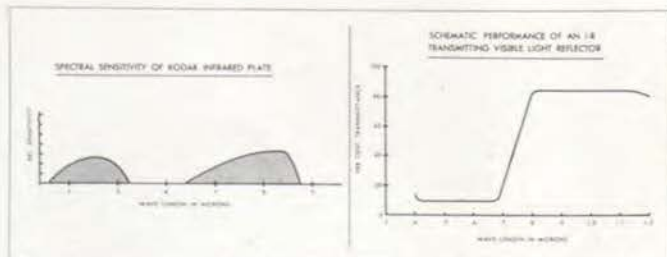


Fig. 4 (left): Sensitivity of typical infrared material. Fig. 5 (right): Schematic performance of Fish-Schurman infrared transmitting reflector.

fore, color temperature meters. However, color balance must be judged only within the visible light region. Due to the adaptability of our vision, we are not capable of accurately recognizing the color balance of a scene. It is logical then, that we are totally incapable of judging infrared radiation. For accurate infrared photography, we have to use a meter which measures infrared radiation in the particular region in which we want to place the exposure. Two suitable instruments are the Servotherm UV-IR Photometer<sup>6</sup>, a product of the Servo Corporation of America or the Servotherm Total Radiation Pyrometer,<sup>7</sup> made by the same company; the latter instrument, having its self-contained reference radiation source is, after calibration, direct reading. At a given temperature, a given substance has a certain amount of radiation in the selected infrared region. A suitable set of test exposures will correlate temperature with exposure.

### Recommendations

Once a photographer has gained confidence in the infrared method, he has entered a most fascinating field. It can be visualized that it is possible to take a motion picture of an infrared subject by selecting two narrow band infrared-transmitting reflectors and record the two images separately simultaneously. By printing the two separation negatives in two colors, very interesting phenomena can be studied.

There are a few general recommendations concerning infrared photography. Most cameras are not marked with an infrared focusing mark. It is therefore quite important not to omit a focusing adjustment. Since most lenses are corrected for green light, we have to increase the lens-to-film distance about  $\frac{1}{4}$  of 1% of the focal length of the lens in order to be in sharp focus for the infrared image after we had the camera previously focused on the visible image. Since motion picture cameras do not allow any backward motion of the film plane, it is good practice, after the camera has been focused on visible light, to set the distance scale for a shorter distance; this will naturally increase the lens-to-film distance. The focusing error should not be underestimated, especially for telephoto work.

Another hint concerns thermal images. Quite often thermal images are shown, which have little resemblance with the visible light image. In such cases, it is quite necessary that a visible light photograph be made of the same scene. By superimposing the two photographs, or better yet, by superimposing a contrast outline light image over the thermal image, a much better record can be presented. Another rule for thermal images is the inclusion of a known radiator by the image which should be clearly marked.

### Light Sources

So far we have discussed radiators, where the subject was its own "light source." Let us now look at other sources of infrared radiation. A few years ago, the infrared or "black" flash was accepted as a novelty for candid photography. However, the object photographed was generally not flattered when false teeth and eyeballs were rendered totally black. As soon as the novelty wore off, the infrared-coated flashbulbs and dipping dyes were harder to obtain. We learned however, that flashbulbs have considerable infrared emission. By using a Wratten filter No. 87 over the flashlamp, this method can still be used employing ordinary flashbulbs. For industrial photography, it is generally not the object to conceal the light source and we can use any standard light source. Especially for the type of picture where one camera is recording the visible image while the other camera is taking the infrared image, the method of selective filtration at the camera is preferred.

It is not always recognized that electronic flash represents an excellent infrared radiation source. This source is especially useful for the fast exposures, such as are required for high-speed stills and high-speed motion pictures. Electronic flash units are available which can be synchronized with motion picture and high-speed cameras. Another powerful source is the high-pressure xenon arc. An ordinary flat iron makes a good source for infrared photomicrography. Naturally, all photofloods and tungsten lamps are equally useful, and last, but not least, the sun is known to be a good radiator.

As we had seen before, the hotter a radiator gets, the more it approaches the energy peak of the visible light region, or the easier it is to take an infrared photograph of the subject. However, many problems are concerned with thermal photographs of subjects or events near the ambient temperatures. This places the emitted energy beyond the range of infrared photographic materials. Special instruments, called thermal imaging devices, have been introduced. One such ingenious device, shown in Figure 6, is the Evaporograph,<sup>8</sup> manufactured by Baird-Atomic, Inc., 33 University Road, Cambridge 38, Massachusetts. One has the choice of two methods, depending on the temperature of the subject. The thermal image will, for low temperature operation, affect the rate of condensation of oil on a membrane. An auxiliary

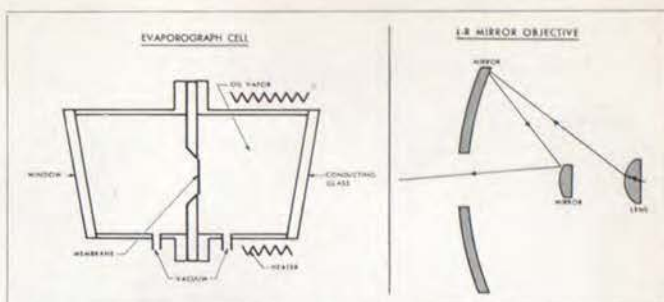


Fig. 6 (left): Diagram of Evaporograph Cell. Fig. 7 (right): Mirror objective for infrared photomicrography requires special Mirrotel lenses.

light illuminating the oil film will show interference colors corresponding to the local temperatures of the subject. By photographing this phenomenon, a photographic record can be produced of temperatures which would be well beyond the reach of photographic materials. For events with higher temperatures, a method is employed where the thermal image prevents the condensation of the oil. The photograph is taken in the same manner as for the first method, however, the interpretation of the interference colors follows a different theory.

Ordinary photographic lenses can be used for many infrared applications. However, since they are not corrected for the infrared spectrum, they have to be replaced by more suitable optics especially for far-infrared work. Special lenses have been developed for infrared applications. Since mirror optics have no chromatic aberration, they are especially useful for infrared work. The Mirrotel lenses, made by Wollensak Optical Company, are an excellent example. In Figure 7 we have an example of a mirror objective for infrared photomicrography.<sup>9</sup>

### Image Converters

A discussion of thermal imaging devices would not be complete without mentioning image converters. The "snooperscope" which had been used during the last war contained such an image converter and some of these interesting devices were available as war surplus material. Some have found their way into laboratories and serve to convert infrared microscopic images into visible ones. The use of an image converter using a Mullard ME1201 tube had been reported by Simeon Braunstein.<sup>10</sup> In his application, the thermal image was focused on the photocathode of the image converter tube (a schematic view is shown in Figure 8) and appeared as a visible image on the viewing screen. This visible image was then recorded with a high-speed camera, at 2,000,000 fps!

A modern thermal imaging device, the Barnes Far Infrared Camera<sup>11</sup> represents another mode of conversion. The Barnes Optitherm Imaging attachment is used with the Barnes Radiometer. It scans a scene and the signal of the radiometer modulates the output of a glowtube. This visible transformation of the thermal image can then be photographed.

These examples of exciting and revolutionary imaging devices are only given to remind us, the industrial photographers, that there are already fantastic tools available to be used in industrial infrared photography, and it is up to us to use them in order to supply accurate records of infrared phenomena.

### Schlieren

Another phase of infrared photography is schlieren photography. In this field we are photographing actual heat waves. Heat waves which are normally invisible can be photographed if the subject emitting the heat waves is placed in the collimated light beam between two parabolic mirrors, as it is shown in Figure 9. In the focal point of the first mirror is the slit or point light source; in the focal point

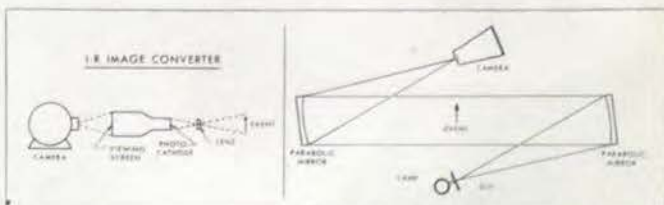


Fig. 8 (left): Schematic view showing use of image converter. Fig. 9 (right): Heat waves are photographed through schlieren photography.

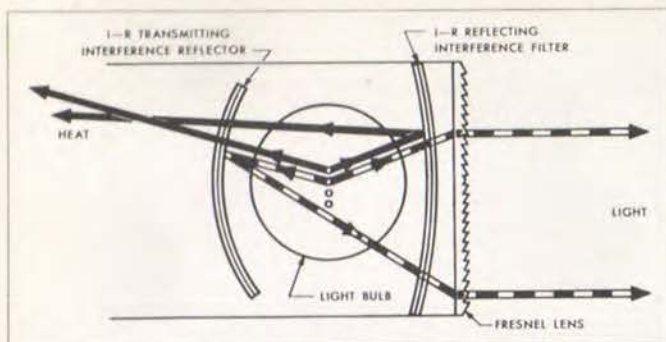


Fig. 10: Interference filter principle in the design of a spotlight.

of the second mirror is the camera lens. Such a system is so sensitive that heat waves emitted from a hand can be photographed.

There remains one important problem, so often encountered while photographing infrared self-luminous events. The infrared radiation which serves to take a photograph also represents the same radiation which will heat up the equipment. We have to know how to deal with heat. The equipment and the cameraman can generally be protected with aluminum covered asbestos reflectors. However, the lenses, the filters, and so on, have to be protected too. We mentioned before that one way to prevent heat from reaching the lens can be accomplished by substituting infrared reflecting material for absorbing material. One example of a modern heat filtration system had been developed by General Electric and Bausch & Lomb and was reported by Norman C. Lipton.<sup>22</sup> In this system which is shown in Figure 10, an interference filter principle has been ingeniously employed in the design of a photographic spotlight. It may serve to explain the technique. The filters either transmit infrared and reflect visible light or vice versa. By this method, the light beam as well as the lamp-house are kept considerably cooler.

Let us now look in Figure 11, at an example of an infrared reflecting light transmitting filter as the Fish-Schurman Corporation<sup>23</sup> supplies. Since this company supplies filters having any desired characteristics, one can design a filtration system which will allow only those portions of the spectrum to reach the film which are desired and reflect the rest. The same company introduced a set of furnace peephole glasses which are of extreme interest to the photographer who takes self-luminous events. Although these filters were designed for visual observations of furnaces, replacing cobalt glasses, they have a potential use for color photography of self-luminous events. These glasses have a colorimetric correction for the visible region of hot self-luminous events. Their proper use enables us to record accurately the visible portion of heat energy on color film, with the same accuracy as we have discussed to cover the near and far infrared regions.

Let me conclude by stating that the full exploration of infrared photography is just beginning.

#### List of References

1. "Infrared and Ultraviolet Photography," 2nd Edition, page 25, Eastman Kodak Co., Rochester, N. Y.
2. "Materials for Spectrum Analysis," 2nd Edition, page 37, Eastman Kodak Co., Rochester, N. Y.
3. "Photographic Plates for Scientific and Technical Use," 6th Edition, page 39, Eastman Kodak Co., Rochester, N. Y.
4. "Filters and Lens Attachments," page 33, Eastman Kodak Co., Rochester, N. Y.
5. By communication with Fish-Schurman Corp., 70 Portman Road, New Rochelle, N. Y.
6. Bulletin TDS-1370, Servo Corp. of America, New Hyde Park, N. Y.

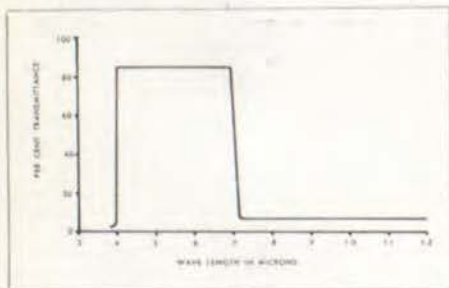


Fig. 11 (left): Example of infrared light transmitting filter.

7. Bulletin TDS-IRPS 6-55, Servo Corp. of America, New Hyde Park, N. Y.
8. Bulletin RD-515, Baird-Atomic Inc., 33 University Road, Cambridge 38, Mass.
9. Infrared Mirror Objective, U. S. Patent 2,684,015, Grey (Polaroid) July 20, 1954.
10. "Image Convert at Aberdeen," by Simeon Braunstein, *Industrial Photography*, July 1956, page 31.
11. "Optitherm Infrared Camera System," produced by Barnes Engineering Co., 30 Commerce Road, Stamford, Conn. *PS&E*, Vol. 1, 1957, page 82.
12. "Heat Filtering," Norman C. Lipton, *Popular Photography*, February 1956, page 8.

## MOTION PICTURE FILM REPORTING

by Warren G. Kemmer

(Warren G. Kemmer, Supervisor, Photographic Laboratory Convair, 3302 Pacific Highway, San Diego 12, Calif.)

Here is a recipe for cooking up a film report that I heard just the other day: Take one particularly dry subject. Carefully remove the general interest. Fold in all information available on the subject. Photograph from the flattest angle possible. Remove all words under six syllables. Serve up this hash to customers who are already tired of the diet.

Unfortunately, this recipe is all too common in the industrial film pantry. We hear too much about "nuts and bolts," and not enough about "creative common sense," when it comes to putting a motion picture together. First, let's have a look at what we have to work with.

In a little over 50 years the motion picture has become the dominant vehicle for the transmission of ideas, the communication of information, and the molding of attitudes and emotions.

According to an article in *Business Screen* magazine, it is a fact that sound motion pictures are the most effective of all media, because the eye outranks all other sensory organs put together, as a pathway to the brain—83% of all mental impressions are received visually. On the average, only 30% of the spoken word is retained, but 75% of what is seen and heard is retained. In industrial films, however, we are not aiming at the average audience. The men who see our films are in industrial management, military and government positions, and are above average in intelligence.

Twenty years ago, if you and I had been told that in 1959, we would be seeing motion pictures taken from space rockets, we might not have laughed, but we would have smiled! Film accomplishes so many things so well, that even we professionals, responsible for its progress, still cannot see the end of its potential.

Film imparts information, and imparts the same information in the same way, again and again, for reporting, sales, training, etc. Film persuades and sells in an increasingly competitive business world. Film commands complete attention from any group, any time, anywhere. Film has no limitations in time or space, it has immediate authority because it can't be argued with, or ignored. It reports what it sees, quickly and comprehensively.

### Two Extremes

The language of industrial film has two extremes. At one extreme is emotion. At the other is fact. Closer to the "emotional" end of the film spectrum, we find films that are designed for the public, and built to persuade, to excite, to convince; selling our products, creating demand, putting the company's best foot forward.

At the other extreme of this band is the engineering tool, the motion study, the instrument recording film that evinces no emotion—a kind of film mathematics. Exactly at the center between these two extremes, embracing some of the qualities of both, is perhaps the most powerful, useful and difficult film idiom of all—the industrial film report, at once the most familiar to industry, and the least understood.

What exactly is a film report? It can be defined as the reporting of an event, or a series of events, intended, actual, or accomplished, on film, together with the technical and or factual information involved, to a known audience, in a position to make decisions concerning the subject reported.

Here is another definition from ARDC Regulation 95-3: "A film report is a complete, factual motion picture film used for reporting

information to command, staff, and management, or for purpose of conveying technical information to scientists and engineers working on similar or related projects. A film report should be devoid of extraneous matter and present facts and figures in a dignified straightforward manner."

A film report may or may not be entertaining, it may or may not be entirely informative, but it *will* be designed for the *specific purpose* of providing knowledge for a decision about a subject which will affect the subject in some way.

Let's pretend that you are the supervisor of the photographic department of an aggressive medium-sized metal products company with a motion picture staff comprising a writer, a director and several cameramen and editors, or combinations of these. You have the basic equipment — cameras and accessories, editing equipment, or you may rent all or part of your equipment needs.

### Specialized Field

You have avoided the common mistake of expecting your original staff of still photographic people to be motion picture production people *without training or experience*. This is important, because technical report writers are not motion picture writers, photographic department supervisors are not motion picture directors, and still processing people are not film editors, unless they have been trained in this specialized field. If you expected them to be, the result would be an embarrassing stew of poorly photographed, poorly organized and poorly written film ingredients. If you expect the target audience to react favorably to any film, you must see that it is produced by experienced personnel.

Your company has just received an expression of interest from the government concerning the development of a piece of military hardware. It would be an intricate device; a challenge to your engineering department. It would be important to your company. A special project team would be required to handle it from start to finish. The government has requested a presentation from your company on Project "X." A "concept" type film would tell the story better than any other method. There would be progress reports specified in the contract, and film reports to management.

For possible civilian versions of the product, there would be a need for a sales film on the product. A film for public release is indicated. And finally, to train company personnel and personnel of the buying agency in new methods, a series of training films would be desirable.

Concept, film reports, sales, public relations, training — five basic business film types that can be brought to bear directly on a single project. The needs cover the entire spectrum of film styles.

An effective, completely integrated program such as this would require planning and time to complete. For now, let's take just the film report problem. Let's assume that the contract has been assigned and you are ready to begin work on the first of your film reports.

### Formula for Film

The formula for any film is this: Analysis, Research, Production and Distribution. The first step, analysis, is the *most important single phase of any film production*. You arrange a meeting to include your director, writer and representatives the project manager has assigned to assist.

You must be sure that only those representatives of the project manager immediately concerned with the film sit at these meetings. One man of this group should be the final authority on policy, content and approval for the film.

At this initial meeting, some basic and vital questions must be answered: What is the purpose of the film? What is the desired result? Who is the audience and what are their backgrounds, experience and level of intelligence? How will the film be used by the requestor? When is it required? How much needs to be told, and what is the story?

Now, you are on common ground. The film will be 16mm, since for economy and convenience this is the standard for the industry for film reporting. It will be in color, may contain some animation, perhaps some sound effects and little or no music. You have given your requestor a rough cost estimate. You have now established a framework in which to work and are ready for the second step — research.

Now begins what is for the writer the toughest part of the film — digging out the facts, all of them, that have anything to do with Project "X," picking out the key areas and organizing them into a script. Creative common sense, the talent for drawing the line between the extremes of emotion and fact is a prerequisite for a good film report writer. He must visualize the final film as it will appear on the screen and create a script that tells the story effectively,

factually, simply and economically. His first problem is to avoid trying to pack everything into one short film. An over-loaded script is worse than none at all. Remember, in the report film, the eye is receiving information too! The picture on the screen and the narrator's words must work together, reinforcing each other.

### Writer's Treatment

The writer knows that what the ear forgets, the eye remembers, and he uses this as his guide to insure that narration and picture work together. The writer, may, if you wish, prepare a "treatment," after his initial research, outlining the film generally and giving a sketch of how he intends to treat the subject matter. This treatment is a three or four-page outline of general continuity, some sample narration and some suggested photographic coverage.

When this treatment is okayed, the writer moves on to prepare the first draft of the final script. Because it has everything in it that will appear in the finished product, the script is a fine way to estimate costs. With each scene listed on the left side of the script page and the narrative paragraph listed on the right, you can make quite accurate estimates on the cost of your production with just a copy of the script before you. The writer finishes the script and you are ready for the next step — submitting it to the requestor. The time for revisions, changes, improvements or deletions is *now*, not later when the smallest change is expensive.

The writer can now accomplish required revisions and complete his final script, the blueprint for production of the film from start to finish. At this time the script is committed to production. You arrange a meeting to include your motion picture writer and director, and the requestor who will sign this final script for approval. At this meeting a firm estimate on costs is submitted with the finished script, and a thorough evaluation of the production job is given to the requestor. This is a critical point in any film production. If I were asked what one single consideration was most important in film work, I would have to answer, "Educating the requestor on the subject of film costs." Very often the requestor has little or no idea how film costs are figured.

Your requestor will appreciate knowing that his script was carefully written to avoid very expensive or "arty" techniques. He will understand, if you explain carefully, the necessity of sometimes using an expensive technique when it is the best, and perhaps the *only*, method to get across effectively that particular point of the story. Now he knows what he's going to get, how soon, how much it's going to cost, and *why*. On this basis he can reach a decision quickly. Since it contains all of his corrections, he gives the "go-ahead" for production.

### Cost Accounting Effort

Proceeding with the film and its busy production details should be a careful cost accounting effort. The biggest cost factor in any film budget is time — manhours. Here again, the script is very important, for in a carefully written script you have control. Knowing exactly what scenes are called for and where, cost estimating is fairly simple.

The cost breakdown should be started the minute a script has been completed and should be checked by the director, writer, cameraman and editor. They can take the script into the field, survey the situation and tell exactly how cost can be controlled in production. Again, the principle of creative common sense comes into play. Your people have a strong creative instinct which is a rare and wonderful resource. On the film report, this creativeness, while indispensable, must be tempered with common sense. A cameraman or director may see some real drama in a suggested scene and could spend hours getting just the right "feeling" in it! However if the one called for will be on the screen for only two or three seconds, the creativeness probably would be wasted, and so would your budget money. Creative common sense should be integrated into all phases of production.

Lighting problems in interior areas are a major source of chewed fingernails among in-plant producers. A survey of electrical sources, outlets and capacities, well before production begins, will help avoid delays. A close tab on rented equipment is imperative. A good film can be produced using just basic equipment.

New faster color films like the 16mm Reversal Linograph 500 developed by Eastman Kodak are making these lighting jobs easier to live with. Since some shooting can be controlled, the director can ask for repeated action and/or rehearsal runthroughs and the job is simplified.

Animation, many times a very necessary technique in technical films, can get way out of hand if not handled carefully. There are several less expensive art techniques that can help here, such as slide motion. Animation, however, can sometimes be cheaper than any other method because it may be the only way to show a particular phenomena.

Perhaps the biggest money-saving technique of all is the proper liaison with the people in the field who are part of the project you are photographing. This should be done as soon as possible. A four-hour delay in preparing a piece of hardware to be positioned correctly keeps a camera crew idle and you have lost budget control.

At the end of each production day a cost tally is made on the expenses in time, materials and vendor costs for that day and added to the total cost to date. If things are getting sloppy you can tighten them up *then* and know exactly how far you have gone with your budget and what you have to work with for completion.

When the field crew returns they have the ingredients for your film report, say, 4,000 feet of unprocessed color original. This goes to the lab, properly slated and identified. During this processing period the director has arranged to have the script recorded.

It takes skill on your part in selecting the narrator whose voice and delivery tell your story most directly and unpretentiously. Too many film reports have gone out bearing the voice of the chief engineer, a manager or engineer, because "he is the one man in the plant that knows all about this project," or "everybody knows him so he should have the privilege of speaking for it." The factor that is forgotten in these cases is that the narrator's voice *alone* is judged in the final product, not his length of service, his looks, or his reputation. The best narrator is the one of whom you never become conscious.

Now the recording has been done and the processed original camera footage comes back from the labs. The director, writer, cameraman and editor view this original footage, removing what is unusable or poor, and select the best of alternate scenes. This footage is returned to the lab for a one-light, or unbalanced, color work print. When it returns, the editor enters the scene. This is his department now. Make no mistake about it, film editing is a creative art, and no job for amateurs. Creative common sense will help you at this stage again. The work print is cut to fit the script in exact sequence and trimmed or lengthened to improve the timing. This assembled work print is viewed by your production staff.

### Interlock Screening

There will be changes and improvements suggested here and there. When they are made, the sound track is cut to match the work print, and any sound effects agreed upon are blended in.

Now it's time for the first interlock screening. For the first time, your production staff can see the film as a whole, and make any improvements which are necessary. After this internal interlock screening comes the interlock screening for the requestor, the project manager and his staff. Only the people agreed upon early in the game to do the approving should be present.

The interlock screening may be a surprise to your customer no matter how carefully you have prepared him. Seeing the many facets of a film coming together into one cohesive whole will be a surprise. He will notice that a scene that particularly worried him in the script looks altogether different when the editor has done some clever cutting, the narrator has given the narration just the right inflection, the sound effect sneaks in, and the fade comes at just the right moment. Your requestor will begin to realize that perhaps you know your business after all! He may, however, still make changes. This is the point of no return.

Your film, although he has just seen it altogether, is still in pieces — narration track, perhaps two sound tracks, and work print. Each can be changed now. It can be changed later, too, of course but once the film is printed all on the same piece of stock, the expense of changes begins to rise.

Next, the finishing steps are begun. All the sound tracks, music, if used, voice track and sound effects track, are balanced and blended onto one track, in sync with the picture. The editor cuts the original film into A and B rolls, placing every other scene that appears in his work print on separate rolls, to enable any optical effects to be printed onto the composite print at the lab. He makes the original film match the work print, frame for frame, and sends the composite sound track and A and B rolls back to the lab for printing of the first answer print. When it is returned, comes the moment of truth. At this final approval screening, the requestor sees what he paid for. The print is color-balanced and clean.

### Potential Energy

Now for the fourth phase — distribution. A film report of any kind is a bundle of potential energy for sales, indoctrination, training, management briefing or whatever. But it's only *potential* energy, unless it's shown to the right people, at the right time, and shown everywhere it might have value. The more it is screened, the cheaper it gets, not in dollars, but in viewers per dollar spent.

Good films generate more films. The best reputation your department can have is a successfully produced film that did the job it

was designed to do. A good way to make sure this is done is to provide the requesting department with a thorough report on how the film was received, what the reaction was, and what the result turned out to be. Advising anyone who might be interested in the subject will get the word out, too. Your entire investment is represented by a few hundred feet of film on a metal reel, and it pays to keep it working.

Industrial motion pictures have made startling progress in a very short span of years. I think it is a mistake to assume that motion picture communication must somehow manage to "keep up" with the progress of industry, even as industry plans the vehicles for the investigation of space. I prefer to believe that motion picture science has a parallel to technology frequently far in advance of practical applications, and that we, in industry, must learn to keep up with the potentials of film for these new challenges.

It requires foresight, imagination and skill to apply motion pictures to full advantage in business communication. The motion picture film report is an excellent lever in gaining wider acceptance. "Creative common sense" makes for better film reports, and better motion pictures generally. The recipe of analysis, research, production, and distribution, when mixed with creative common sense, cost control, and skilled production, cannot fail.

I'm convinced that when the first space ship lands on the moon, and explorers discover that it really isn't green cheese, the facts will be presented in a motion picture film report.

### BIBLIOGRAPHY

Here are the publications, periodicals and books found to be most helpful to the industrial film maker. There are many other excellent publications of equal value available, with these, from public libraries, bookstores, or from the publisher.

#### Periodicals

*International Photographer*—Monthly. International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, 7614 Sunset Boulevard, Hollywood 46, Calif. Subscription Rate: U.S.A. \$2.50 Yearly.

*Film World and A-V World Magazine*—Monthly. Sidale Publishing Co., 672 S. Lafayette Park Place, Los Angeles 57, Calif. Subscription Rate: \$4.00 Yearly.

*PMI, Photo Methods for Industry*—Monthly. NPD Corp., 33 W. 60th St., New York 23, N. Y. Subscription Rate: \$4.00 Yearly.

*Business Screen*—Monthly. Business Screen Magazines, Inc., 7064 N. Sheridan Rd., Chicago 26, Ill. Subscription Rate: \$4.00.

*Industrial Photography*—Monthly. Photography in Business, Inc., 10 E. 40th St., New York 16, N. Y. Subscription Rate: \$4.00 Yearly, \$6.00 for two years, \$8.00 for three years.

*Film Media*—Quarterly. Photography in Business, Inc., 10 East 40th St., New York 16, N. Y.

#### Publications

"Annual Workshop Manuals"—Issued by the Calvin Co., Inc., 1105 Truman Rd., Kansas City 6, Mo. This is a workshop manual assembled for use by participants in the annual 16mm Motion Picture Production Workshop sponsored by the Calvin Company in Kansas City. Some extremely helpful practical information can be found in these manuals.

Eastman Kodak Company Library—Eastman Kodak can supply or recommend many excellent publications that the industrial producer will find useful.

#### Books

"Handbook of Basic Motion Picture Techniques." Emil E. Brodbeck,

McGraw-Hill Book Company, Inc.

"Film and the Director." Livingstone.

"Handbook of TV and Film Production."

"Graphic Arts Procedure."

"Successful Sales Promotion." Simon.

"Technique of Playwriting for TV and Motion Pictures." L. Herman.

"The Dollars and Sense of Business Film."

"The Technique of Film Animation." John Halas and Roger Mervell, Communication Arts Books, Hastings House Publishers, N. Y.

#### Reference Books

"The International Dictionary of Physics and Electronics"; "Von Nostrand's Scientific Encyclopedia," 2nd Edition; "The Von Nostrand Chemists Dictionary"; "Mathematics Dictionary," James and James; "Dictionary of Scientific Terms," 5th Edition, Henderson and Henderson; "Naval Terms Dictionary," Captain John V. Noel, Jr., USN; "Chemical Encyclopedia," 8th Edition, C. T. Kingzett; "The United States Air Force Dictionary," Edited by Woodford A. Heflin. (All edited and published by D. Van Nostrand Co., Inc., Princeton, N. J.)

## THE MECHANICS OF VISUAL PRESENTATIONS

by Walter Lawton

(Walter Lawton, Manager, Photographic Services,  
Stanford Research Institute, Menlo Park, Calif.)

First, to talk about visual presentations, I must make one basic presumption—that you are the projectionist. I am going to talk about what you do, what you should do, what you should not do. I am going to talk to you as projectionists for pleasure and also as professional projectionists as most of you must be in your industrial jobs.

Now, whether it be business or pleasure you must appraise yourself properly: You are *not* the show! The speaker at the front of the room is the headliner and you must be unseen, unheard, unknown. When you go to a movie and pay a couple of bucks to watch some cute flesh pot squirm while you munch your popcorn, you are completely oblivious of the projection mechanism. You never give a thought to the varying sound levels, the opening and closing of the curtains, the raising and lowering of the house lights. It all goes so smoothly and perfectly that you cannot notice.

You have never noticed a picket fence unless there was a picket missing to break the smooth flow of pattern. These responsibilities are yours when you become a projectionist. You become the impresario. It is your job to arrange the seating, the lighting, the darkening, the ventilation, be a safety engineer, an audio engineer, a fireman; these things are mechanics of visual presentation and they are your responsibility. Every one of them must be investigated, prepared and tested before the first patron enters the room.

My first point is to remind you of something you know very well but have probably forgotten: The angle of reflection equals the angle in incidence. Incidentally, I'm not going to give you very much that is new or unknown. I'm going to bring to your attention only those things which you should know, have known and forgotten, or have failed to read in the common, everyday literature. Now back to the angles of reflection and incidence. Here I am bouncing a ping pong ball. I drop it straight down and it comes back straight up. I throw it sideways and it bounces at the same angle. Now at a lower angle the bounce is also low. When I throw it sideways I lose more ping pong balls that way! Now, how does this affect you?

### Personal Aspects

Let's say you are at a party and somebody wants to show their 2x2 transparencies. The first thing is usually, "You're a photographer. You show the slides." So people start dragging chairs, moving the screen several times after first having trouble involving at least three people before the legs are extended, breaking out the projector, finding an outlet, clearing an end table, usually one that wobbles, finding a book to put under the front of the projector, and tripping over cords. Finally, you start to show the slides upside down or reversed. There are a thousand other things which could go wrong, but from here on I want to talk positively instead of negatively. I just had to get this in so you wouldn't think I'd overlooked the personal aspects of projection which are just the same as the problems of the industrial projectionist. Now, back to the angle of reflection.

(Slide—Figure 1): Notice that I didn't say a word. The slide carried the message and was so simple that it needed no explanation. It is also so well drawn that unless you are illiterate you got the message. Please notice also that it was not necessary to darken the room thus relieving you of the discomfort of a sudden and unexpected visual shock, usually evidenced by the noise of chair shifting and position shifting. Listen for it during other sessions. Good slides, well prepared and properly presented on good equipment, do not

need a dark room. Of course, this does not hold true for color. We, at SRI, make perhaps 100 slides per week, 5000 per year. I'm talking about black-and-white 3 1/4 x 4 slides. Color transparencies are in addition. We also project as many and we must maintain sufficient illumination in our rooms for the technical audience to take notes. I recommend that you introduce an indirect light for the comfort and convenience of your audiences.

Let's look at the slides themselves (*demonstrating*). This is a 3 1/4 x 4 lantern slide. The edge is masked. There are standards for these things. I want to digress to tell you about railroading. When does a collection of cars become a train? You have all seen a trainman swing aboard with lanterns in his hand and the first thing he does is mount those lantern markers on the rear of the car. A string of cars becomes a train at the moment the markers are mounted and that is the moment his pay starts. So with a lantern slide. Until this white dot, called an operator's guide spot or thumb spot, is put on a slide, it is not a slide, is not ready for projection. Every slide must have its guide spot. The projectionist works in subdued light, works too fast to read each slide, usually doesn't know left from right. He cannot do his job without the spot and you, as projectionists, should have the slides in your hands far enough before show time to add the spots if they are not already there. If you make the slides, do it right. The best readily available and common spot is a Dennison's No. 251 gummed label, available at any stationery store. In an emergency you can make gummed spots by using a hole punch on the edge of an envelope or gummed label. If you have 2x2 transparencies mounted in cardboard, I suggest using a pencil eraser as a rubber stamp and stamp a black dot on your slides.

### Examine Motion Pictures

Lantern slides are not the only things which you must examine before use. Motion pictures must also be minutely examined. Before projection, a motion picture should be placed on a pair of rewinds and run through your fingers from end to end checking for torn sprockets, tears, strength of splices, pieces of tape. Remember, it takes five feet of leader just to thread a Bell & Howell JAN projector so you must have that much before the Academy leader. If the leaders, both blank and Academy are not there, put them on. It is part of your job. Rental or free films usually look as though they had been projected on a BAR. You must know how to use splicers and be ready to use them before, during and after each motion picture projection. This is not the place to discuss Academy leaders or splicing techniques so I must leave these things to their proper time and place.

Now, let's move on to the projection screens. Most of you are not as fortunate as I am to have three theaters with electrically operated screens recessed in the ceilings, controlled from the projection booths. If it is at all possible, avoid having a brightly illuminated screen at the front of the room which tires the audience and hypnotizes them. Use a roller type screen and pull it down only when necessary. If the screen must be displayed continuously, try not to have it illuminated brightly.

Now, I am going to step on the toes of our invaluable exhibitors in our Trade Show. The beaded screen and the sales efforts of the retail dealers are the curse of the projection business. That is a rough statement so let me explain it. There are several kinds of screen surfaces, principally beaded, matte and lenticular. I'm going to use only beaded and matte for the purpose of this demonstration but I don't want to give the impression that I am ignoring the others. First, I wonder if you know that the screens used in the theaters are fakes? Every time you pay a dollar to see a movie you are immediately cheated out of 15% of your money because the screen is full of holes, perforated. This is to let the sound through, air passage, etc.

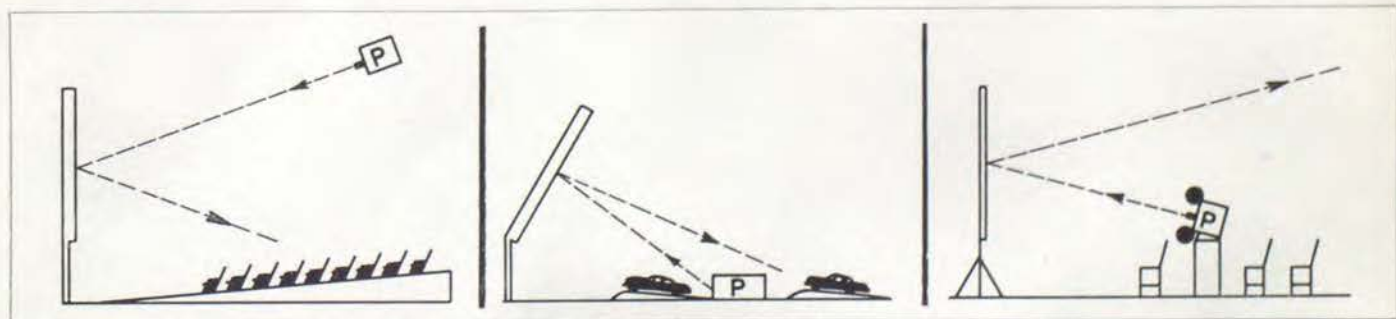


Fig. 1: Illustration showing ideal relationship of projector and screen, demonstrating that the angle of the reflection equals angle in incidence.

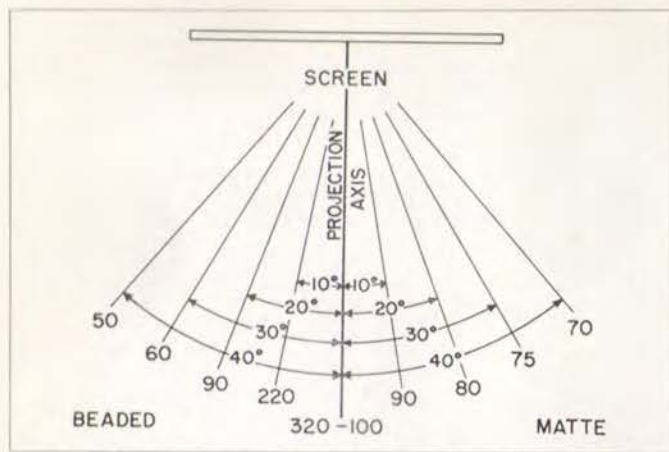


Fig. 2: Reflectance of matte and beaded screen, based on projection axis.

Now I show you two pieces of screen fabric, one beaded, one matte. Notice as I turn them that the beaded screen varies in intensity more than the matte screen. I have a slide to nail this down (Slide—Figure 2). At home, in the case of the amateur or professional, the person who owns the slides does the projecting. He sits at the projector, right on the projection axis. If a matte screen is used, let us say the reflectance from the screen is 100 units. A beaded screen in the same position would reflect 320 units, give an image three times as brilliant. But very few people can sit on this axis. Now look at what happens for the people who sit on the sides. At an angle of 20° on the beaded screen, the light has fallen off to 90 units, a loss of 72%, while on a matte screen the light has fallen off to 80, a loss of only 20%.

Similarly, at 30° the light has fallen off to 60 units for the beaded screen, a loss of 81% as compared to 75 units or 25% loss for the matte screen. At 40° the beaded screen has lost 85% while the matte loss is only 30%. At the opening, I said that I was not going to present anything new. This information was copied from "The Photo Lab Index," Section 14, Page 92, which you have never taken the time to read. Please keep this in mind next time you buy a screen. And may I remind you that all screen fabrics can be washed with a soft cloth and a mild soap. Just borrow your wife's wash cloth and toilet soap and improve your pictures another 100%.

When you have a show in your living room, studio or conference room, the audience usually seats itself. You should be able to arrange the seating and control the placement of chairs. Now I offer you this diagram for proper seating (Slide—Figure 3). Note first that the controlling dimension is the width of the screen. The last row should not be farther than six times the screen width for any type screen. This is a control of letter size. Screens come in all sizes. You must pick the screen size to fit the room. For a room 40 feet long, use a seven-foot screen; for a 75-foot room, use a 12-foot screen. The projector should be behind the audience, not in the middle of it, to avoid the noise and nuisance of light spill and activity of the projectionist.

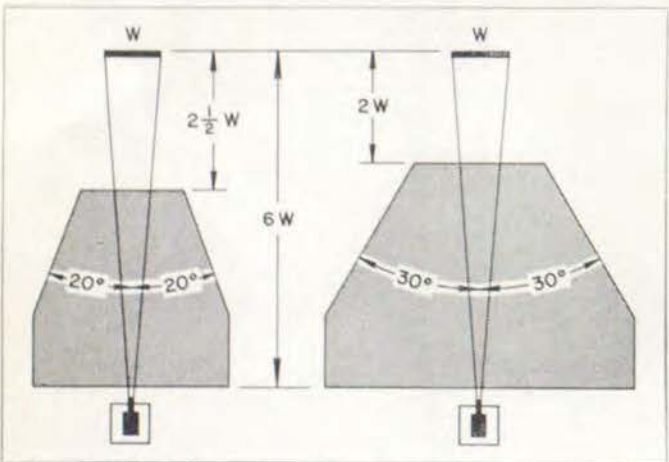


Fig. 3: Screen width is the controlling dimension for proper seating.

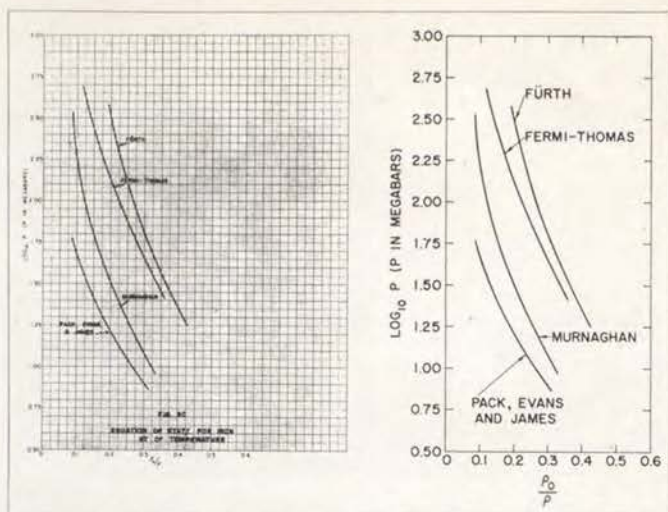


Fig. 4: Revised chart, right, used same curves, eliminates graph lines.

If you don't have several projection lenses for every projector, put them in your budget for next year. Notice also that the angle of seating arrangement is again governed by the type of screen, and that the placement of the first row is also a controlled item. This diagram is included in the operating instruction booklet furnished with every Eastman, Bell & Howell and other motion picture projector, from which I have made this copy. It also appears in "The Photo Lab Index," Section 14, Page 9, and you have no excuses for not having read this information many times in the course of earning your living.

Mechanics of Present Action

As in any mechanical gear train all the gears have to mesh all the way along, and the actual preparation of the original material must fit in with the screen size, audience placement, etc. You must be able to set down the rules and standards to be followed by authors and draftsmen in preparing slide material. I could write a book on this but you wouldn't read it—just the same as you have already ignored all the fine material already available. So to whet your appetites and hope it will encourage you to read some books, let me give you some examples of what is required in the mechanics of material presentation.

(Slide—Figure 4): On the left you see the wrong way—the way the material was originally given to me. On the right is my revision. The curves are identical—the one on the right was made by tracing over the one on the left. Tick marks have replaced the graph lines, lettering has been increased to legible size, captions set out in proper locations. Here I repeat an important point: No character should be less than 1/40 of the vertical image height. This ties in with the 6W screen dimension.

(Slide): This is a horrible example of too much copy. This table lists Sulphur Uses. The top part shows the distribution of 80% for sulphuric acid uses, 20% for non-acid uses. Please notice these headings which account for 33%, 18 1/2%, 3%. Spacewise they are out of proportion, the 33% and 3% being the same size and each one only 1/3 the size of the 18 1/2 group.

(Slide—Figure 5): In this re-design all the comparisons show up in their relative values and are completely legible, which they were not in table form. Proper design is another link in the chain of visual presentation.

Let's move along now to the projectors themselves. Before operating any piece of equipment, read the instruction book! One rule I would like to give you is not published in any book: "If it works hard, you're doing it wrong. Stop!" All machines are built to do a job easily. Don't force anything. Stop. Read the instruction book.

I'm sure this happens to you as frequently as it happens to me, which is several times a week. As soon as someone learns that you are a photographer, they invariably tell you about their three or four hundred dollar camera which their cousin picked up abroad for much less. Of course, if you question them about its features, they usually don't know much. But they do know the price! What they can do with it is even more deplorable, or I should say what they can't do with it is even more deplorable.

For the moment, let me lapse into the 35mm field exclusively. Ask any user of a 35mm camera what projector he uses and see how few specific answers you get. Usually people buy projectors on price

## SULFUR USES



Fig. 5: Comparisons in relative values not legible in table form.

alone. If they want automatic features they still ask no questions about the optics or light output. And here again I'm going to amaze or insult you. I have taken the information from a chart on Page 85 of the 4th edition of Dr. Neblette's book, "Photography, Its Principles and Practice" and reworked the figures and information into a more legible slide. Dr. Klughardt demonstrates there is a loss of approximately 4% for every air-glass surface in a lens system. Lenses today, you might be thinking, are coated to cut down reflections. True. Have you ever looked at a long row of cameras in a store and noticed the myriad colors of the lenses? If those lenses reflect those colors, they aren't transmitting them. And you want to blame the film manufacturers for your poor color renditions!

I once sat in with a group of physicists in optics and the management of a camera manufacturing company. This was in the early '40s when lens coating was becoming a factor in sales. The camera manufacturer's production manager was griping about the additional cost of coating lenses. The sales manager said, "I don't care what you coat them with. If you coat 'em, I'll sell them. If you don't, I won't be able to give them away." How many of you know what coatings are on how many elements of your taking or projection lenses. You investigate your own problems later. All I want to do is disturb the hornets' nest. Going back to Dr. Neblette's 4% loss for each air-glass surface, let's look at his figures in my chart (Slide—Figure 6).

(Slide—Figure 7): Now let's look at a schematic diagram of a projector. This diagram is of the projector we are using here today. Let's count the air-glass surfaces. There is a minimum of 16—times 4% equals 64%. Additionally, the glass used for the heat absorption is dark green, cutting out much light and changing the color of your transparencies. The condenser lenses are light green pop bottle glass and the objective lens is usually better grade, about like high class 7-Up bottles. If we are getting 15%-20% of the filament light to the screen, we are very lucky.

I wonder if any one of you has ever cleaned the entire optical

Fig. 6: PROJECTION LENS REFLECTION LOSS

	PERISCOPE f 11	DAGOR f 6.8	TRIPLET f 3.5	TESSAR f 4.5	DOGMAR f 6.8	ERNOSTAR f 2.0
LENSES	2	6	3	4	4	6
CEMENTED SURFACES	—	4	—	1	—	2
REFLECTING SURFACES	4	4	6	6	8	8
REFLECTION LOSS	16%	18%	29%	28%	37%	38%
TOTAL LOSS	20%	22%	32%	33%	40%	48%

system of any projector? That, too, is part of the mechanics of visual presentation. May I suggest that you investigate the color corrections, resolving power and other features of your projection equipment as critically as you do your camera lenses. You might want to comment that I have not used color in my slides. Color would serve no good purpose. It should be used only when necessary for special impact. My slides were simple enough to have the impact of my message. Mechanically, they too should be as unnoticed as the projector and the projectionist.

Gentlemen, know your equipment. Buy the best equipment you can afford; keep it in good repair and clean. Remember that you are the impresario and that you must make all the detailed arrangements in advance, never enter the proceedings.

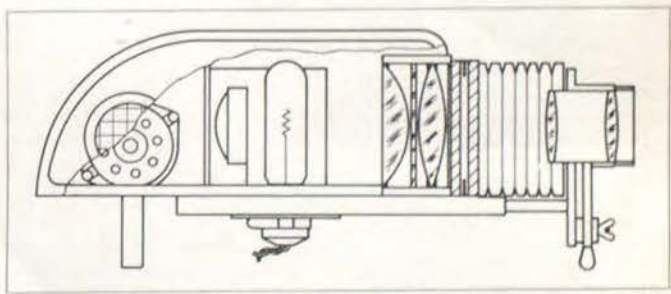


Fig. 7: Schematic diagram shows how air-glass surfaces in projector allow comparatively low percentage of filament light to reach screen.

can vary so widely in contrast, tone, texture and intended use. Let's approach the problem step by step.

While any camera or lens could be used for copying, many limitations may exist. Special equipment is desirable but not mandatory. A minimum requirement would be a view type of camera with a bellows extension equal to at least twice the focal length of lens used. The lens should be a good anastigmat and the focal length at least equal to the diagonal of the film size. An ideal choice for the professional photographer would be an 8x10 camera with interchangeable backs to accommodate various film sizes and interchangeable lenses.

The use of a tripod in copying is not practical, so a copy stand should be provided. The stand should support the camera on a horizontal track. An easel should be provided to hold the copy. As origi-

## PORTRAIT

## COPYING TECHNIQUE

by Bob Forester

(Bob F. Forester, Bob Forester—Photography,  
4319 W. Pico Blvd., Los Angeles 19, Calif.)

While not easy, consistently good copies are very possible. The copying process calls for all the skill of the photographer in making the right selection of materials and applying proper technique.

Strictly speaking, a copy is a reproduction of another photographic print; however, the term is made to include most flat surfaces such as printed material, drawing, art work, etc.

The reason for most difficulty lies in the fact that subject matter

nals should be held perfectly flat, glass or a print frame can be used. It is preferred to have the easel movable to assist in centering the copy. For good results, camera, stand and easel must be perfectly aligned, so true dimensions of the original will be obtained. This is particularly true in various industrial applications. To avoid glare and reflections, the easel and details on the camera front should be in a dull black finish. A black card with a hole for the lens may be used to cover any reflecting details of the camera and lens.

**Lighting**

Most copies require very even flat lighting. This is generally obtained with two units. A pair of trough lights containing a number of bulbs or fluorescent tubes are very satisfactory. The lights should be placed at the sides of the camera so the copy is evenly illuminated. This should be determined by actual meter test over all parts of the copy easel (a used photoflood may be half the intensity of a new one). The angle of the lights to the copy is of the utmost importance. If lights are too close to the camera, reflections or glare will result, particularly in gloss prints or copy under glass. If the lights are too far to the sides undesirable surface texture in the original may be picked up. The ideal is somewhere near 45° between copy and camera. If a large original is being copied be sure that the angle of lighting is determined from the outer edges or glare will result. Figure 1 illustrates this point.

In high contrast reproductions differences in lighting will be greatly exaggerated. This can be due to the camera lens itself, simply because the center of the film is closer to the lens than the outer edges. Consequently, exposure will fall off at the outer edges of the film, particularly if minimum or shorter focal length lenses are used. A remedy is to actually light the outer edges of the original stronger than the center—a rather difficult thing to do. A better method may be to use a longer focal length lens. This will minimize the unevenness. The longer lens will more evenly illuminate the field of coverage due to the narrower angle employed. At the same time the longer lens will make possible a better placement of the lights. Needless to say, fixed lights at the sides of the camera are not practical in making copies.

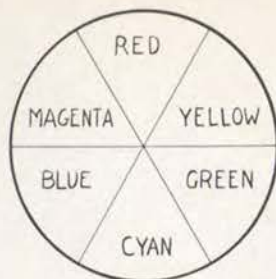
While the use of wide field or wide angle lenses is not advisable, on occasion they may be useful. When the need is to greatly enlarge a portion of the original on the negative, the short focal length will afford a much greater ratio of bellows extension. The unevenness of illumination then becomes negligible because of the narrow angle of the lens coverage used.

**Films and Filters**

If properly exposed and processed many different films are suitable for copying. For high contrast line work, process and lithographic films are the best choice. If very fine detail exists it may be better to use other general-use films and give them high contrast treatment. High-contrast materials generally require special high-contrast developers. For occasional use, paper developer is an excellent substitute.

The choice of continuous-tone films is large. However, films that lend themselves readily to manipulations of exposure and development are best. Other factors that affect the choice are the condition of the original, contrast, tone, color, detail, and necessity for retouching. Commercial and the new Gravure film are excellent choices, especially when the highlight detail is of the utmost importance. The fine-grain films are a good all-around choice for continuous-tone copying. For the various color films, quite naturally, the quality of the light must be matched to the film.

Filters play an important part in photo-copying. General or selective



General or selective contrast in copying can be improved through the use of filters that are selected on the basis of the color wheel, Figure 2, left.

contrast can be improved and in many cases stains and fading eliminated. The best approach to proper filter selection is through the use of the color wheel as illustrated in Figure 2.

The use of panchromatic film and a filter close to the color in an original will lighten that color. That same filter will have a partial lightening effect on the colors in the same half of the circle. The color directly opposite (the complementary) will be darkened the most and there will be a partial darkening effect on the other colors on that half of the circle. The use of filters is especially necessary in line copies when the subject is other than black-and-white. By matching or going slightly deeper in filter color a colored stain may be entirely eliminated.

**Exposure**

There is very little latitude in determining correct exposure, especially in high-contrast work. It may be obtained with a light meter. In using a reflected light meter the use of a gray card (18% reflectance) is recommended; or using a pure white card (90% reflectance) and increasing indicated exposure by 5X.

The next important consideration is the bellows extension. Several formulas and published guides are available to determine this correction. A simple method is as follows: first measure the distance between the lens and film. Next, square the ratio of this distance over the focal length used and increase exposure accordingly.

Example:

- Lens ..... 6" focal length
- Lens to film ..... 15"
- Ratio ..... 2½ to 1 (15÷6)
- Squared ..... 6¼ (2.5x2.5)

Increase exposure 6¼ times. It must be remembered that the above correction is necessary because the indicated f-value on the lens no longer applies, and in effect f/16 would become approximately f/38. A word of caution here would be to avoid the use of too small an aperture as a loss of definition can result due to diffraction.

Another correction that may be used is to give as much as one-half stop more exposure for very dark originals and one-half stop less for very light originals.

Many otherwise careful workers sometimes ignore exposure and contrast variations due to the failure of the reciprocity law. This law, which indicates that the photographic effect obtained is the product of the exposure time and light intensity, does not hold over a wide range of exposure times and light intensity. Some correction in exposure is therefore often required when exposure duration or illumination levels depart widely from those at which the photographic emulsion is designed to operate. There usually is also a slow increase in contrast as exposure times are lengthened.

**EXPOSURE CORRECTION FOR RECIPROCITY EFFECT**

Shutter Speed (Sec)	Approximate Exposure Increase
1/1000 — 1/10,000	2X (low contrast)
1/25 — 1/1000	Normal
1/25 — 2½	1.5X
2½ — 7	2X
7 — 16	3X
16 — 35	4X
35 — 60	5X
60 — 120	6X

Some difficulty may be encountered to produce a certain size on the negative and then getting it sharp. In making copies at 1:1 or larger sizes (enlarged on negative) the easiest way is to select a bellows extension, then obtain approximate focus by moving the camera; hence, the reason for mounting the camera on a track. For final critical sharpness the use of a good magnifier is highly recommended. All parts of the groundglass image should be thoroughly examined, due to the

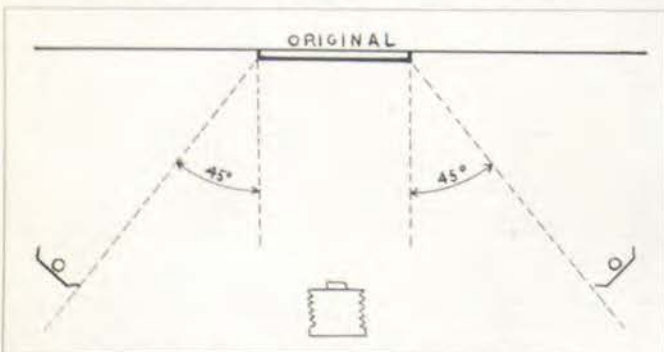


Fig. 1: Ideal angle of lights to copy is near 45° between copy, camera.

very shallow depth of focus that is available. This final sharpening of the image is best accomplished by moving the back of the camera. Moving the lens at the front results in an annoyingly changing image size.

### Exposure-Development Ratios

Much of the success in making good copies is a correct combination of exposure and development. Many workers experience a tendency to increase contrast in a copy. To correct this, the best procedure is to increase exposure and cut down development. This is particularly true in copying a full scale print. The flat or low-contrast print is a boon to the copyist. An improved copy can be made every time! Normal exposure and development or less exposure with increased development may be called for here. The following chart may be useful as a guide in determining exposure-development ratios:

Original	Exposure	Development
Extremely flat	1/4 X	2 X
Quite flat	1/2 X	1 1/2 X
Slightly flat	normal	normal
Full scale	2 X	3/4 X
Contrasty	4 X	1/2 X

Do not expect much (if any) improvement in copying contrasty prints.

When a print is made with the intention of being copied, by all means make it rather flat (no true whites or blacks) and print it rather full. An excellent full-scale copy should then be assured.

In all the foregoing, the photographer is urged to take time to make tests of various exposure-development combinations and thereby arrive at a technique that suits his own choice of materials and equipment.

When printing from copy negatives special care must be used in accurately exposing and developing the print. Any dodging or printing-in that can be done is very limited. Prolonged exposure or development simply results in graying the print. There is no reserve of highlight detail that is usually found in an original negative. Holding back will result in washed-out blacks. For best results use normal development and hit the exposure "on the nose."

The use of polarizing filters over both lights and the lens gives excellent control of reflections and surface texture. There are many special methods available for making copies, such as under water (improving shadow but losing highlight detail), infra-red, ultra-violet, translucent lighting, reflex and other special techniques that go beyond the scope of this article, but many good references are available.

Poor results can be traced to not attaching enough importance to or overlooking the factors enumerated here. If all steps are taken into proper consideration, good copies are easy!

## RETOUCHING COLOR NEGATIVES

by Roger Cecconi

(Roger Cecconi, Eastman Kodak Company, 343 State St., Rochester 4, N. Y.)

A proper starting point in a talk of this type is a discussion of the equipment used.

**Retouching Stand.** Any retouching stand suitable for retouching black-and-white negatives is also suitable for retouching color negatives. Daylight blue bulbs or fluorescent tubes in the retouching stand are better than standard household bulbs—they make more apparent the color of the areas requiring retouching. A 100-watt daylight blue bulb provides sufficient illumination. Electronic retouching stands work out very well.

**Etching Knife.** Those who do not like to etch are lucky. An etching knife cannot be used on color negatives because the image is made up of three separate dye layers; and to lighten an area with an etching knife would mean getting to each layer and doing the correct amount of etching on each.

Corrections normally made with a knife are made by the addition of dyes on color prints.

**Retouching Fluid.** Standard retouching fluid is used on color negatives to furnish a tooth for the retouching pencils. Retouching fluid is applied in the same manner used in black-and-white negative retouching. Thin base roll film (Kodacolor) requires a heavier application of retouching fluid than the thicker base portrait sheet film

(Ektacolor). This is due to the fact that the roll film does not have the built-in surface tooth that the sheet film has.

In applying retouching fluid on sheet film, the fluid on the surface of the film is normally wiped until it is practically dry. With roll film the wiping action should be stopped before the surface seems dry. After the surface has dried, which takes several seconds, it will have quite a bit more tooth than it would if the surface were wiped dry.

Retouching is ordinarily done on the emulsion side of the negatives, but it can be done on both sides where a considerable amount of work is required.

### Standard Pencils

**Pencils.** The pencils required for retouching color negatives are the standard black lead used in black-and-white negative retouching, a red pencil, and a blue pencil. Eberhard Faber makes a pencil which is red on one end and blue on the other end which works out well. It is known as Mongol No. 860.

Separate red and blue Eberhard Faber pencils are also available—Colorama No. 8056 (red) and Colorama No. 8045 (blue). The equivalents of these pencils in other makes are all right too.

To sharpen these colored pencils, the wood must be cut back about one inch from the tip with a razor blade. The exposed lead is shaved to a point with the razor blade. The point is then sharpened further on fine sandpaper and finished off by stroking it on ordinary paper. The pencils are applied to color negatives in the same way that black lead is applied to black-and-white negatives.

Now, for a review of retouching techniques:

A color negative is basically similar to a black-and-white negative. The dark areas in both the color negative and the black-and-white negative represent the bright areas in the subject; the light or more transparent areas of both the color negative and the black-and-white negative represent the darker areas in the subject. Consequently a dark blemish or a deep line on the subject's face would appear on both negatives more transparent than the surrounding area.

To remove the blemish or line in the black-and-white negative, black lead is applied to the blemish or line until it matches the surrounding area. To remove the blemish or line in the color negative, exactly the same procedure is followed unless some green, often faint, can be seen in the blemish or line. If green can be seen, the red pencil is applied first until the green is neutralized and is no longer visible. Then the removal of the blemish or line is completed with the black lead. If no green is apparent in the blemish or line only the black pencil is used.

### Black Lead

Most of the retouching on Ektacolor and Kodacolor negatives is done with the black lead. Some of these negatives can be completely retouched using only the black lead.

If using a black pencil brings on a greenish color in a blemish, line or shadow, it is an indication that the red pencil should be used. The red pencil can be used over the black lead retouching until the greenish color is no longer visible.

If a very hard black lead is used over a previous application of red lead, it is possible that the hard black lead may remove some of the red. If this situation is encountered, the red lead can be applied to the back of the negative and the black lead can be applied to the emulsion side.

To soften a line or shadow which has some green color, only part of the green should be neutralized with the red pencil. Then the line or shadow is softened with the black lead. The amount of green neutralized with the red pencil is not critical. If a line or shadow is going to be softened by 50%, then roughly one-half of the amount of green in the line or shadow should be neutralized.

The blue pencil is used for removing veins, which appear yellowish red on the negative. They are sometimes difficult to see. Applying blue pencil on them will make them match the surrounding areas.

Highlights are worked in or emphasized with the black lead as in black-and-white negative retouching.

Weak catchlights in the eyes can be strengthened with a soft black lead or with black spotting color applied with a fine spotting brush.

Small faint pinholes can be filled in with a soft black lead. The larger variety of pinholes requires the use of black spotting color and a fine spotting brush.

Color negatives generally require less retouching than black-and-white negatives. It is easy to over-retouch them. A good way to retouch the first one or two color negatives is to work from color proofs. Make only those corrections which you decide are necessary as you look at the color proof. Do not make any corrections on the basis of what you see in the negative. By following this procedure you will generally do only what is necessary.

## COLOR IN THE SMALL CITY STUDIO

by Charles D. Downey, M.Photos., and James C. Downey

(Charles D. Downey, M.Photos., James C. Downey, Downey's Midwest Studio, 17 E. 16th St., Scottsbluff, Neb.)

*Charles D. Downey:* Today, we want to tell you some of the things we have learned about making Ektacolor prints back home in Nebraska.

Our studio is located in the small city of Scottsbluff, Nebraska. The population is about 14,000 people. Scottsbluff is a fine little city, of which we are very proud. Business is good there. In fact it is so good that we share it with three other studios, and about 40 transient photographic experts and artists of one kind or another. In other words our problems are just about the same as yours.

We want to tell you about the following things: How we expose and process Ektacolor Type S film in our studio; the basic fundamentals of light and color as related to color photography; how we expose and process Ektacolor paper; evaluating errors in color balance in the prints, and how to correct them.

The first item we will take up is the exposure of Ektacolor Film, Type S. We have been using speedlights in our studio since 1940, so we haven't exposed any of the Ektacolor L. However, if you are using other methods of lighting, you will still be able to apply most of the things we will talk about.

*(Lighting demonstration with model.)* Many of you know that there is often a difference between what you see with the modeling lamps in your speedlights, and what is actually recorded on your film. For this reason we have found it helpful and enlightening to build up our lightings in the following way: As we like to work with our lens stopped to f/11 for adequate depth of field, we arrive at our correct exposure and light balance by varying the distance of the lights we use.

### Background Illumination

After posing my model, my first concern is with the correct placement of the background illumination. Any portrait, no matter how carefully posed or lighted can be spoiled by careless use of the background light. We place it so it will throw the light a little stronger on the side of the subject that the main source of light comes from. This would be your modeling light. Your background light should be strong enough to separate the subject from the background, but you should avoid excessive contrast or your eyes will travel beyond the subject and focus on a glaring background.

As to the color of your background—this we will leave up to your individual taste in colors. We have a plain white ground that we use most of the time. This gives us a neutral effect that is pleasing and safe to use. We have no quarrel with anyone who can use background color in good taste when composing a color portrait. As of now, we do not feel that we are ready to go in for loud background colors.

To arrive at the correct exposure on your film, it will help to start a series of tests at three distances with this light: at four feet, at three feet and at two feet. After developing this series, we liked the two-foot distance. For the rest of our test we left the background light at this distance.

Adding our hair light, we repeated the series of three. Again we liked the two-foot distance, and left the hair light at this distance for the rest of our test.

Let me point out to you, at this stage of your lighting, how easy it is to see some of the bad elements about your picture that can be corrected at this point. Stray hair, bunched up clothing, and stray light, are all easily seen, and corrected. We keep a can of hair spray handy and use it to control the wild hair. As it is not practical to etch color negatives, this is the time to see unwanted highlights, and correct them.

*(Slide):* Notice the hairlight spilling onto the young lady's chest. She was not that bony, but the stray light makes her look like it. A snoot or barndoor will enable you to place your light where you want it.

The third step in our series is the addition of our modeling light, or main light as I sometimes call it. We use this light to create a pattern of light on the high points of the face, with the nose shadow running off the face. We especially try to avoid too much light on the forehead, and too little on the lower part of the face. By directing our light carefully we can miss the forehead with the main rays of light and direct them to the lower part of the face. Out of another series we chose the four-foot distance and used it for the rest of our test.

Now *(demonstrating)* we will use the front fill light to modify the rather harsh modeling light. We tried it at nine, seven and five feet. Here we feel that the seven-foot distance gives us enough fill

to illuminate the shadows without killing the modeling light. We will use this distance for the rest of the test.

This *(demonstrating)* is a fill-in light on the shadow side of the subject. It prevents the shadows from going too dark. Lack of shadow exposure in the negative will tend to make your shadows too blue. This is particularly noticeable in the hair coloring.

These tests will give you a set of building blocks that you can combine to give a composite lighting that will fill your needs.

*(Slide):* This is our camera room. We use our old studio camera with a 14-inch Ektar lens for most of our color portraits. We have used soft focus lenses with very pleasing results. We use the recommended 85 filter in front of our lens.

I would like to call your attention to the blue floor in this slide. We found that this blue floor was reflected into our pictures and caused us nothing but trouble. We now have a light gray floor and our walls are painted with a slightly grayed white. By keeping the colors in our camera room on the neutral side we avoid any color predominating in our pictures.

We have another time-saver in our camera room. Duplicate sets of lights on each side of the subject allow us to change lighting from left to right without dragging a light back and forth in front of the subject. This is a real time-saver when working with a senior class.

### Seniors Want Color

At this point I would like to tell you that we made 10% of our seniors in color last year. We have hopes of doubling this percentage this year. Strangely enough, we find seniors who really want color, but will not order it because one of their friends did not have theirs taken in color. We have enough color out now to make more of them want it. We are sure that in a few short years all of them will have color.

It is most important that the film-loading table area be kept clean and free from dust. We use a vacuum on our holders and we use great care in loading and unloading to avoid abrasion marks on the film.

We process all of our film in our processing sink. Also our black-and-white film and our color paper. We have nitrogen burst in our developers only. The rest of the processing agitation is done by hand. We would like to use gas burst in all of our solutions, but do not have the set-up for that at the present time.

We use our regular retouching desks and materials. We follow Eastman's data sheet on retouching. Color film is not especially difficult to retouch; a little practice is all that is needed. You may find it advisable to increase the illumination under the negative.

### Nature of Light and Color

I would like to take you now into a field that is probably less familiar to most of you. This is the nature of light and color as it relates to the Ektacolor process.

Most of you know that white light can be broken down into the three primary colors of red, green and blue.

*(Slides):* It is hard to believe this until you see it. As we superimpose these three primaries we produce white light. We produce a secondary color by adding two of the primaries. If we add blue and green we produce cyan. We have used blue and green to form cyan; the missing color here is red.

This missing color is called the complementary color of cyan. When we add the complementary red to cyan, we complete the circle back to white light. If we add red and blue we produce magenta.

Magenta is white light minus green. When we add green the complement of magenta we complete the circle back to white. By adding red and green we get yellow; in this case the complementary is blue.

What I have just discussed applies directly to Ektacolor paper. It has three emulsion layers, each of which will produce one of the secondary colors when exposed to the light of one of the primaries. Exposure through the red filter produces cyan; exposure through the green filter produces the magenta image; exposure through the blue filter produces yellow. When the three print images are in balance we have the finished color image.

We can add the secondaries together to produce the primaries, for this is how they are produced in our print. Magenta and yellow, where they overlap in the print produce red. Cyan plus yellow gives us green. Magenta plus cyan gives us blue. It immediately becomes obvious that the blending of the secondaries in correct relation to each other produces a full range of colors in our Ektacolor print. It is important that you learn these few facts about color.

When you start to work with color, the similarity of some of the colors may cause you trouble. For instance it is easy for the beginner to confuse magenta with red, the difference being that red contains magenta and yellow. The difference between blue and cyan is that

blue contains both cyan and magenta. The difference between cyan and green is that green contains both cyan and yellow. The difference between yellow and green is that green is yellow plus cyan.

At first glance, all this may be confusing, but don't let it get you down. In no time at all you will be quite familiar with color.

*James C. Downey:* We realize that it is almost impossible to go into this field of color and attempt to teach it in one easy lesson. We know that we, personally, are a long way behind many of you here in the field of color photography. However, if the state of Nebraska is in any way representative of the profession as a whole, we know that far too many of you are way behind in color. That is basically why we are here today. We want to try to help some of you catch up with the progress that has been made in color photography.

I know that most of us like to think of ourselves as professional people. But consider this for a minute. What would you think of your family doctor, if three or four years after penicillin or polio vaccine had been tested and generally available, he still wasn't able to administer them to your family? Regardless of how fine a fellow he was, I don't think you'd want him for your family doctor much longer. Well, my friends, color has been here three or four years. It has been tested and is available. Other photographers have been administering shots of color to your friends and customers. And what's more, color is doing them some good. So if you want to be truly professional and stay in this business much longer, you'd better prepare yourselves to administer color to your customers.

### Equipment and Materials

Assuming that you now have a color negative, we come to the essentials of how to go about making Ektacolor prints. First you should know what the necessary items of equipment and material are. To borrow a quote from the Eastman Kodak data sheet that comes with every box of Ektacolor paper, "It can be exposed with ordinary enlarging equipment and processed with ordinary darkroom equipment." While this is true, it does leave some possible question as to just what is ordinary enlarging and darkroom equipment. So to be a little more specific, we will say that you will need the following:

(1) An enlarger. Preferably a Mazda light enlarger with heat-absorbing glass and a method of holding color correction filters. There are two basic kinds of filters and they can be used in several different places on our enlargers. The acetate CP or Color printing filters can be used above your negative, out of the image-forming light. The gelatin CC or Color Compensating filters can be used directly above or below the lens in the image-forming light. You can get satisfactory results with your filters in any of these positions. But for optimum results, the filters used above the negative will probably give less interference. The ideal type of filtration to my way of thinking would be electronically controlled, and absolutely repeatable. I hope that something of this sort will be available in the not too distant future.

(2) You will need some color correction filters. I would recommend a complete set of the gelatin CC filters. They come in the six colors—red, green, blue, cyan, magenta and yellow. They are each available in six densities, ranging from .05CC to .50CC. The cyan, magenta and yellow are now available also in a .025CC density for extremely fine color corrections. You will also need a 2B infrared cut-out filter. This is available both in the CC and CP filters and it looks just like a .05 yellow filter.

(3) You will need an accurate exposure timer. This timer should be easy to set in the dark.

(4) You should have at least one good smooth-bottom non-metallic tray slightly larger than the prints you intend to process. Several other trays will be handy, but not a necessity. We found that a smooth-bottomed enameled tray was best to use all the way through the processing. A tray with a raised X bottom can cause unevenness in development so that the marks will show on your prints. All of our prints larger than 8x10 are processed one or two at a time in trays. Of course we would like to have one of the 16x20 tank lines with nitrogen, but as yet we don't.

(5) You must have an accurate thermometer.

(6) You must have a means of maintaining exact temperature control at 75° F. plus or minus 1/2° during development.

(7) A series 10 safelight is sometimes a help. It is actually very dim and can be used for a total of only four minutes, so you could do without it.

(8) Next you must have some Ektacolor paper. Here I would recommend that if you are the least bit serious about getting into color printing, you should buy at least 100 sheets of the same emulsion number to start with. Changes to new emulsions are not too difficult once you have mastered the process, but in the early stages of experimenting and learning I would recommend that you avoid it.

(9) And finally you will need P-122 processing kit.

As we said earlier most of these things are ordinary items of equipment. The extras are not really big items of expense.

*(Slide):* This shows most of our printing equipment in our projection room. Since this slide was made we have painted our room completely black. Here we have the following items of equipment: (1) An old Eastman auto-focus projection printer with a 7 1/2-inch Ektanon lens; (2) An electronic timer; (3) A voltage regulator on the enlarger and timer; (4) A multi-print easel which will print either 16 stamps, 8 billfolds, 4 3x5's or 2 5x7's on a single 8x10 sheet. We use the borderless easels for 8x10, 11x14, and 16x20 prints; (5) A series 10 safelight; (6) A Densichron with a filter wheel to read our negatives for color balance and exposure.

### Important Printing Conditions

Besides having the proper equipment, there are a few basic ground rules that you should follow. They are:

(1) The darkroom must be light tight. For the best results we feel that it should be painted black.

(2) Your enlarger must not leak stray light into the room and on to your paper. Raw light on Ektacolor paper is no good.

(3) You must mask the raw light from around your negative. The fogging effect is many times more deadly in color than in black-and-white.

(4) Your room and negatives must be kept clean. Sloppy workmanship will cost you double time and money in color. We now have a new type of glassless negative carrier which stretches the negative tight to eliminate buckling and we think that it is going to be a big time-saver plus eliminating a lot of the dust and dirt problems.

(5) Avoid abrasions and rough treatment of color negatives and paper. Compared to other color processes with which we are familiar, Ektacolor is quite rugged, but should still be handled with TLC, tender loving care.

(6) Refrigerate your paper at 50° F or below. Take only as much paper out of refrigeration as you plan to use at one time.

(7) Again to borrow a quote from the Eastman Kodak data sheet: "For the most consistent results, the time interval between exposure and processing should be kept as nearly uniform as possible. Most of the changes in the latent image occur in the first 4 hours, and the most noticeable effect in prints is a color-balance shift, usually toward yellow. Therefore, if a large number of prints are to be made from the same negative, hold the test print and later the production prints at room temperature for 4 hours after exposure. At the end of this stabilizing period, either process the paper or store it in a cold, dry place (preferably at a temperature of 35° F or lower) until it can be processed." I would say that the foregoing condition is not too important during the early testing and learning stages of color printing, but it surely should be kept in mind for regular production printing and processing.

### Exposing the Paper

We have talked about the equipment, materials and conditions of printing. We will now get down to cases and talk about actually exposing the Ektacolor paper. As most of you probably know there are two basic ways to expose it—by a single white light exposure through a filter pack or by three separate, consecutive exposures through sharp cutting red, green and blue filters. You will remember that earlier in the program we showed you the cyan, magenta and yellow prints. Those prints were made by individual exposures through red, green and blue sharp cutting filters (by sharp cutting, we mean they transmit light of one color only as near as possible). If those exposures are consecutive on one sheet of paper we get a completed color print.

To further clarify this I am going to show you the prints again as examples of the tri-filter printing (*Showing of color prints.*) The cyan image was formed by an exposure through a No. 70 red filter. The magenta image was formed by an exposure through a No. 99 green filter. The yellow image was formed by an exposure through a No. 98 blue filter. When these three images are in proper balance and superimposed by consecutive exposures on one sheet of Ektacolor paper, the result is a balanced color print. The three or tri-exposure method is used primarily in the mass production type of work and is not very practical for portrait work.

The single white light exposure through a filter pack is the method which we use and is considered the most practical for our type of work. With a single exposure you have several advantages. They are: (1) Less exposure time is required; (2) Movement between exposures is eliminated; (3) You can dodge and burn in just as in black-in-white. (This is next to impossible with the tri-

exposure method); (4) You can make localized color changes by dodging or burning-in with CC filters. You will remember that we mentioned earlier that when we had the blue floor in our camera room we had some trouble with the blue in our pictures. Here (*photograph*) is a print of a bride that the blue was reflected up past her waist on this white dress and it looked terrible. When I printed it the second time I dodged the lower half of the picture full time with a CC-40B filter. This completely eliminated the blue cast. In fact it went too far the other way. But with careful use of filters during burning-in or dodging you can make some very controlled changes in local areas.

### Altering Color Content

What we are doing in a single white light exposure through a filter pack is altering the color content of the enlarging light until there is just the right amount of each of the three primaries of red, green and blue present to properly expose each of the three layers in our paper.

To print any given color negative, we must have a starting point for estimating a basic filter pack and the proper exposure for our negative. I think that Eastman Kodak recommends about a CC-50R for the average negative using a No. 212 or No. 302 enlarger bulb. You might make a mental note here that a CC-50R pack is just the same as a CC-50M plus a CC-50Y, as red is composed of equal amounts of both magenta and yellow. It just happens that with our enlarger set-up, we use a CP2B plus a CC-60R red and CC-20Y above the negative. The final slight color correction for each individual negative is made with CC filters below the lens.

You may compose and focus your picture either before or after the pack is in place. I prefer to do it afterwards.

With our negative and pack in place we must make an exposure test. A perfect exposure in the color test is very important in the evaluation of color balance. Here is a test that we think will help you get a near perfect exposure on your first color run. Mix some fresh Dektol 1:1 at 68° F. With your color negative and filter pack in place make the following test. In total darkness take a sheet of Ektacolor paper and make a series of exposures just as if you were using a fast black-and-white enlarging paper. Develop this color paper in the Dektol in total darkness for two minutes. Stop and fix in total darkness. You will come up with a black-and-white image. Pick the exposure that looks the best and use that same time as a mid-point for a new exposure series on Ektacolor paper to be processed in the regular P-122 chemicals.

Now we will assume that we have selected a basic filter pack and have made a series of exposures of our color negative and are ready to process this test. (*Slide*): Here is our loading bench and print basket. These baskets fit into the 3 1/2-gallon tanks and will take two 8x10 sheets, back to back, in each of 15 compartments for a total of 30 8x10's, 60 5x7's, 120 3x5's, 240 billfolds, or 480 stamp size, or any combination of these sizes.

(*Slide*): Here is our processing sink again. The P-122 line is in the seven tanks down the back of this sink with the quick-dump wash tank in the center. These solutions are all mixed according to instructions on the yellow boxes. For Ektacolor paper processing in the print basket we have found that if we use 15 pounds per square inch and set our nitrogen burst interval timer for a two-second burst every 20 seconds we get quite good results in our developing. Processing is done according to instructions strictly by time and temperature.

For what this might be worth—I find that a print processed by hand agitation in a tray will take approximately 20% more exposure than a print developed in our nitrogen burst tank. To know this is very helpful to me when I am making color balance tests developed with nitrogen agitation and then change to tray development for the final prints, as in the case of our 11x14's or 16x20's.

After processing, the prints are dried. At the present, all of our prints are air dried. Almost all of our Ektacolor prints are dry mounted. All orders are carefully spotted with Flexichrome colors. And most of them are sprayed with one of the Krylon sprays to cover spotting and give a nice surface. We hope that Eastman will soon make Ektacolor paper available in a G surface.

### Evaluating Color Balance

At last we come to the most interesting part of Ektacolor printing. That is, viewing the test print and determining how to evaluate and correct our enlarger filter pack for errors in color balance which we have made. While the color print is still wet it is almost impossible to tell what the dry print will look like. Viewing the wet print by transmitted light will give you a rough idea, but final judgment must be reserved until the print is completely dry.

We then choose the best exposure in the test series and view it under controlled conditions. By controlled conditions we mean that we construct a viewing light set-up where the color balance of the light is about midway between that of tungsten and daylight illumination. A print that looks good under such a light will look reasonably good under either tungsten or daylight. As you know the color of light that falls on a subject determines to a great extent how it will look. The best we can hope for is to arrive at some kind of standard and stick with it.

I am ashamed to say that we have wasted many hours of time running with a print from fluorescent to daylight, to tungsten and back again trying to judge the color balance. I know we would have been better off to have constructed a standard viewing area and used it for all color evaluation from the start.

It is simple to correct for most errors in color balance. If anything in this program is important this is it, so perk up a bit for the next few minutes.

If the print is too yellow, we can make it over in color balance simply by adding a yellow filter to our filter pack. If our print is too red, we can make it over in color balance by adding a red filter to our filter pack. If our print is too magenta, we can correct it by adding a magenta filter to our filter pack.

If our print is too blue, the easiest way to correct the pack is to add a blue filter. However, the technically correct way, since our pack does not normally contain blue, is to subtract from the pack the complement of blue, which is yellow. Subtracting yellow has the same effect as adding blue. By subtracting yellow we will have a less dense pack which is desirable for less exposure and optical interference.

If our print is too cyan, the easiest way to correct the pack is to add a cyan filter to our pack but here again the technically correct thing to do is to subtract cyan's complement, red, from the pack.

And last, if our print is too green, the easiest way to correct the pack is to add green. Here again we would introduce neutral density and would be better off to remove the complement of green, which is magenta, from the pack.

Remember this, basically you remove the excess color in the print by adding that same color of filter to the filter pack. The trick, of course, is to be able to recognize just what color is in excess and just what degree of correction is needed. This you will have to learn by experience and study.

### Reading Color Balance Mechanically

Once you have made a perfect print from a master negative, one which is representative of the type of work you are doing, and it is possible to duplicate the exact conditions under which it was made, it is possible to calibrate an electronic machine to read future negatives to give you an approximate filter pack without testing. Basically what you are doing here, is reading some area which is more or less constant in every one of your negatives such as a gray card, background or skin tone. You will read this area with a photoelectric cell through a red, green and blue filter. This can be done by one integrated reading or by three separate readings, depending upon the type of machine you have.

The filter pack is then adjusted until the given area, such as the gray card in our new unknown negative, reads exactly as the gray card area did in our master negative. Being able to do this accurately and consistently is one of the keys to economical color printing. This is neither the time nor the place to go into the exact details of how we do this, but we will be glad to exchange ideas with anyone.

There are just a few more ideas that we would like to leave with you. First, the extreme importance of recording what you do in color, as you do it. Second, the elimination of variables.

We use a rubber stamp to help us record necessary data as we are printing each order. It has saved us many times its original cost in time saved. With it, we record the date of printing, emulsion of paper, machine exposure settings used, areas of negative read for exposure, exposure time read and given, filter pack used, and recommendations for next try. The possession of this information about each negative printed is necessary for progress in color printing.

Now as to the elimination of variables—the fewer variables, the easier our color printing will become. The easier it is, the more money we will make and the more time we will have to spend it. Every time we change our negative lighting or exposure, we ask for trouble. Every time we change a film or paper emulsion, we ask for trouble. Every time we change our method of material storage or processing, we ask for trouble. Every time we evaluate a color balance test under different lighting conditions, we ask for trouble. So if you are going to print your own color or feel any compassion for your color laboratory, standardize when and where practical and I'm sure it will pay off for you.

## A DAY AT WINONA

*Louis F. Garcia, M.Photos.*: Good morning, ladies and gentlemen. We have a most unusual presentation to offer you today, and without taking up any more of your time I would like to have the impresario of "A Day at Winona," Mills Steele, come front and center. (Applause)

*Mills Steele, M.Photos.* (Greenville, S. C.): Good morning, ladies and gentlemen. I am the stage manager for the events that are to take place today. I am a Winona graduate of the vintage of 1937, but in the 22 years since then I have had many occasions to go back, and even though one may walk through the spotless corridors at Winona, where the floors no longer creak, and look at the ample camera rooms and the bright, shining new equipment, and even though one may progress onward to see the spacious new auditorium containing every possible facility for teaching photography, sometimes at the end of the day, when the students have gone and quiet has fallen, the building seems peopled with the presence of those great men whose dedication to photography, and whose unselfish vision, have made the Winona School possible today—such men as Felix Schacht, Charlie Kaufmann, Pirie MacDonald, Will Towles, Bill Gerdes, George Harris, George Kossuth and many others.

We shall try to show you today the principles which those men established are as valid now as they were 50 or 60 years ago. And in order to do this, let us in our imagination roll back time to the beginning of the century.

In the sleepy little village of Winona Lake, Indiana, the sun is slowly rising. An old photographer of the day is instructing a handful of students on how to make a rounded, basic portrait, lighting with skylight. I know of no man living today who better exemplifies the spirit of those pioneer workmen than Mr. Carl Blakeslee, whose wisdom and kindness, like the sun, shines out. Mr. Blakeslee. (Applause)

*Carl W. Blakeslee, M.Photos.* (Tampa, Fla): In the days of old, when time was young and art was fleeting, a photographer was a worker. He had to work. He had so little equipment and such great ambitions. His inspirations led not to glamour but to saleable pictures—good, sharp, saleable pictures—and he was handicapped, of course, as we see it now, by the lack of the wonderful things that we have today.

The camera as you see it here, looks a great deal like ours that we use today, but it didn't work like those we have today. The rustic backgrounds were geared to the times.

In 1890 thousands and thousands of photographers all over the country made their living by making and selling cabinet pictures. Now, a cabinet picture is a  $3\frac{7}{8} \times 5\frac{1}{2}$  glossy, and there was an enormous amount of work connected with turning out a dozen cabinet glossy prints, and they were sold by the dozen, or two or three dozen—no half dozens. One dozen pictures, cabinet size, \$2.50. That was the going price.

Of course there were overlapping prices. You could go down the street and get them for \$2.00, maybe \$1.75; or you could go to a little more plush establishment and get them for \$3.50, \$5, even \$6. But there was no glamour connected with it. These were serious pictures.

I don't know how one could have made a glamorous picture in those days, with a minimum exposure of four seconds and a maximum exposure of ten seconds. That is a long time for one to hold still, for a model to sit in a glamorous pose. So you see the handicaps that they must have had.

### Backgrounds

The backgrounds were as you see them here. This is about the same as those that were used in those days—plain gray, black and white. And as the subject had to sit very still for at least four to ten seconds, implements were needed to aid him in that torturous position, and they had them. I used them too, in the very early days. And those implements consisted of a head rest. Some of you don't know about head rests. The subject was placed against this (*indicating*) at the back of his head so that he couldn't move if he wanted to. And do you know something? He didn't want to. People were different in those days.

You may find this hard to believe but I have made pictures of two-year-old children in this manner, and before that I don't know how they did it. Remember, if you wanted an 8 x 10 picture you made an 8 x 10 plate. There was no such thing as an enlargement. If the child drew back two inches he was out of focus. If he moved forward two inches he was out of focus. If he moved to the side he was off the plate.

Would you like to try that today and give it four, five, or six seconds? It couldn't be done!

In those days it was an event to be photographed. A visit to the photographer was a holiday and it was enjoyed by all, and the subjects heeded the advice of the photographer, took him seriously. He was a magic man, because he put a black cloth over his head and went in the darkroom to develop the mysterious images, and the photographer in those days was seeking merely an image—no glamour. If he could get an image, well-lighted, flat, perhaps, he was perfectly satisfied and the customer was satisfied and paid his \$2.50 for his dozen pictures.

### Lighting

But, as time went on, we began to see that there was something else in photography—much more. We began to feel that the lighting had to do with better pictures, and we were enabled to make better pictures, that had projection—"if the nose comes out and the ears go back, you know that the head is round." We stumbled on that by studying paintings of the old masters. But exposures were still five, six, seven, eight, nine or ten seconds.

Glamour was so difficult with the head rest behind your head, and that was necessary. You just try to hold still for five seconds. You can't do it, even you, a photographer, who knows it is necessary to hold still. And the subjects would be insulted and would get that grim expression that goes with the old-time cabinet pictures if you asked them to hold still for five seconds.

We had but one light, and that was the glorious sunlight, than which there is no better. We had one skylight, usually two or three stories up; one reflector which reflected the light back and balanced the light on the shadow side, not flattening it, but balancing the light so that the five lights (*indicating forehead, nose, chin and cheeks*) made a round picture, made the head look round. Those steps all came along rather early, earlier than you and I remember.

Then came the necessity for speedier films, much speedier, and the manufacturers cooperated, and we had a little speedier film. But the old Stanley plates, 55c for 12, had—no one knew just what speed. Then came a little faster plates, a little faster and a little faster, year by year, until we have what we have now.

### Light Measurements

Photographers felt at that time that with the variable light and the tremendous difficulties and handicaps—and I heard this expressed many, many times in the early days—someone would invent, discover, or make something to measure the strength of light, so that we wouldn't have to guess. The guessing of those photographers was wonderful, because it had to be. It had to be on the nose. They had a meter in their heads. But sometimes they felt it was not too much to ask these physicists, chemists and scientists, to bring to us a machine, a method of measuring the strength of light so that we would not have to guess. And we wondered even at that time, as we wonder now, is that good?

So now we have the meter. And is it good without this meter (*indicating the head*)? I don't know. Could be.

Now let's make a picture as we did in the old days. May we have a model now?

We will make a head and shoulders pose first. We know he can't hold still for six seconds, so we will use the head rest, just as we did then—an instrument of torture. Then, with a reflector, we balance the light. Now, will you hold still?

There is no glamour about that, but it is a picture that sold, and to make that picture we would have to give about five seconds exposure, with the light unobstructed by clouds, in the early morning.

We learned, too, to use a head screen to cut down the light on the ears, which would make the face not flat but round, make the nose project and the ears go back. So many photographers used a little poem when they made the exposure, to persuade the subject to just hold still for that length of time. When the light was very strong, they would say: "Now I am going to give a little poem, and I want you to hold real still until I finish the poem."

"Roses are red, violets are blue;

The camera is looking directly at you."

Can you imagine anyone posing in a glamorous pose with those accoutrements? So it wasn't to be. But with the advent of all the things that were to come, and that are shown at Winona, those things are very, very simple.

I spoke of rustic backgrounds. That was the glamour, the background, the beautiful things that we used to surround the subject, like this gate.

Gates ajar! This is about the way these were done. This is an original. This was used in a studio.

Now my friend (*to model*), remove the derby and stand right up here. Can you look this way a little more? I wonder—no, let it be. Good.

Now the reflector (*placed to left of subject*), angled upward. Now the head rest. This is placed back against the shoulders. This is going to show half length. There you are!

Again grim, unsmiling, stiff, an awkward pose—but saleable.

"Roses are red, violets are blue;

The camera is looking directly at you."

Thank you very much. (*Applause*)

### Flash Powder

*Steele*: And so, ladies and gentlemen, the sun came up. In a manner of speaking it also went down, because progress had set in, new ideas were creeping in, resented by some, and applauded by others.

The sun didn't always shine, and other sources of light must be found in order that we may pursue our trade. Flash powder was found to be useful, and though some photographers of the day had as little faith in flash powder as later ones were to have with the invention of speedlight, progress still went on. And in 1906, just as in 1959, only the most aggressive, and sometimes the most belligerent, photographers dared to try something new.

Our next demonstration represents as authentic a reproduction of those days as the fire laws of this city will permit. Only the modern flash bulb will be substituted for flash powder.

Picture, now, a busy photographer, a slightly aggressive one, who not only has a sitting but is being interviewed by an editor who doesn't quite approve of these goings on.

To recreate this period and this aggressive spirit we have one of the finest photographers in America and one of the greatest teachers Winona has ever had, Mr. Laurence Blaker. (*Applause*)

*Glen M. Worley, M. Photog. Alliance, Neb.*: Mr. Blaker, I am Glen Worley, from the "Photo Digest," and I would like to interview you in relation to the new things you are doing in photography.

*Laurence W. Blaker, M. Photog. (Manhattan, Kan.)*: Mr. Worley, I am a very busy man. I don't know that I would have time for you to interview me at present, but I do have a very wealthy client of mine, a Mrs. William Carrier, who has come a great distance to be photographed, and if you care to sit in and watch and ask me questions as we go along, I think we can get the interview and the photograph at the same time. (*Enter Mrs. Carrier*)

Mrs. Carrier, I am most happy to welcome you to our gallery. I would like to have you meet Mr. Worley, of the "Photo Digest," who is going to sit in and talk to us and perhaps ask a few questions about what we are doing.

Mrs. Carrier, if you will have a seat right here facing this direction, please—

*Worley*: Mr. Blaker, I understand you belong to a group of photographers creating a new school of photography.

*Blaker*: Mr. Worley, this is a great time to be in photography. For the first time in the history of photography we have a new instrument by means of which we can make instantaneous exposures. We are making pictures that our clients like because they look alive. This is truly a great time to be in photography.

Mrs. Carrier, will you stand for me just for one moment? (*Adjusting dress*) Thank you.

Now, will you turn your head for me just a little bit? Just let your hands follow. Notice we don't have to bother with head screens and we can pay attention to our subjects now.

### New Medium

The theory of this lighting, Mr. Worley, is that we take this instrument, which is flash powder, which was developed for the commercial press photographers some time ago. The professional photographers have been very slow to accept this new medium. We take a yardstick, or mark our floors, we move this light two feet from the subject, bring it out three feet forward, turn it out, with this little diffusion umbrella four feet from the floor. We use one-eighth of an ounce of flash powder.

*Worley*: Do you measure this very carefully?

*Blaker*: Very carefully, because this determines the density of our negative. We no longer have to use our head rest. We can have our subjects even smile a little bit.

*Worley*: Do many of you take pictures after night?

*Blaker*: Yes. This was particularly adopted because we could not work after the sun was down or on cloudy days. This has made it

possible to go into homes and do all types of photography that wasn't possible before. (*To model*) Will you stand, now, please, for me?

*Worley*: Mr. Blaker, what about this school of photography that is causing so much controversy among photographers over the country?

*Blaker*: Well, to tell you the truth, we are having a little bit of difficulty in getting the photographers to accept this new type of work, because they had security in the old head rests. They made a few exposures with flash powder and were not successful, therefore they abandoned it. But I tell you, they are either going to have to use the new medium for photography or they are not going to stay in business.

In this case we must adapt the light to our type of picture. We must cover a larger area with the light, so we will move it back three feet and forward four, and we will increase the one-eighth ounce to possibly half again as much powder, using the same lens, and we will get negatives that are identical in density.

*Worley*: In other words, photography is becoming much more scientific.

*Blaker*: That is what it seems to be. You see, we have had men who developed a seventh sense. They call it their exposure sense, and they pride themselves upon the fact that they could look through a ground glass and they would start, take the cap off the camera, and something told them when to put it back on. But now we take this little thimble that you use to measure the flash powder and you use the amount of flash powder to give you the density of the negative you need.

Now, Mrs. Carrier, you look lovely this morning. That's good, right there. No "Roses are red" this morning.

If you will just take the hat off, Mrs. Carrier, and have a seat—

### Variety in Posing

*Worley*: I notice, contrary to other pictures I have seen other photographers make, you have quite a bit of variety in your posing.

*Blaker*: You are a smart one.

Mrs. Carrier, I have seen you go dashing across the prairie on a horse. You notice, we can even turn our subject without moving the chair with this new invention (posing stool) that has just come out. Now, Mrs. Carrier, just bring your hand to your chin.

You see, Mr. Worley, this light puts such a soft, delicate rendition of flesh tones that we are not quite as insistent upon all the highlights and shadows. Photography is changing; we are in a new school.

*Worley*: Is it rather difficult to get other photographers to see this new light?

*Blaker*: Yes, it has been very difficult, very difficult, because photographers are just a group of men that seem to want to change, then talk a great change, but there is very little change.

Mrs. Carrier, will you look right over there, please? That's it! I might add that sometimes we use reflectors and sometimes we don't use reflectors. As a rule we do not use the reflector.

*Worley*: Do you mean that this reflector acts as another light?

*Blaker*: Yes, sir. I will try to show you the theory of the use of the reflector, which is an art in itself in photographic circles.

In the case of the skylight we use the reflector to throw light back. In this case it is practically the same idea, except we like to have the reflector almost opposite the light. This is a real soft light, you see. I imagine that some day we will have great volumes of light and no reflectors at all, that will just fill the whole studio, maybe with a little accent light of some sort, but that is a long time to come yet.

This is very versatile—what is known today as a line light. The light does not carry across.

I will say this, Mr. Worley, that if we had not had the experience with the skylight I am sure we wouldn't be able to use this particular light. You would only be etching, because it is the experience that you had with the skylight that would make you know where this light is going to fall. I don't know, really, how the beginners are going to use this light, unless some time, Mr. Worley, a little kerosene lamp or something of some sort could be put in here so you could tell generally where the light was going to fall. I don't know; it may be coming.

Now then, Mrs. Carrier—

*Worley*: Don't you feel that—

*Blaker*: Just one moment, sir. This is very delicate. I have a lovely light.

Some photographers manhandle their subjects, and it is terrible. You can use your fingers and turn their heads this way. I don't think they mind. But now, in this case, we just moved straight back from the subject four feet, keeping our reflector four feet from the floor, and our light is falling at the same angle that our skylight used to fall, a 45° angle. It gives us nice modeling.

Now, Mrs. Carrier, just lean slightly forward. That's it! Remember,

dashing across the prairie in the old fox hunt. Look right up there. Wonderful!

Now, what was it you were going to ask, Mr. Worley?

*Worley:* Don't you feel this new method is so technical it is going to eliminate many photographers?

*Blaker:* I am sure that if the photographers as a whole don't change their attitude toward new things that they are going to have difficulties.

*Worley:* I know that the very fine photographers over the country have professional wearing apparel, such as you are wearing now, and a good many of them, of course, don't. Can you give me a few pointers on that?

*Blaker:* I would be really happy to, because that is one of the pet subjects of mine. You will notice that all good photographers are wearing smocks and affecting an artistic atmosphere. The poor photographers—I mean poor quality and cheap photographers—will come out of darkrooms wearing their aprons and sleeve holders with that terrible smell of hypo.

We are going to try to make one more picture of Mrs. Carrier before we excuse her. Now I wonder if you will stand again for me just a second.

*Worley:* What would you say is the average time for a photographer using this modern equipment you have to make a sitting with the many variables that you do have?

*Blaker:* You see, Mr. Worley, I received one of the first lights from the manufacturer as a test run, and we found it very successful. Now I understand that very soon I will have another light that will have a little tray and you put your flash powder in a little tray—eight little trays, in fact, little cup-like affairs, and this new light is flashed with an alcohol light, making it possible that this will be enclosed, so that the powder will not flow out all over the studio and embarrass our subjects. For that reason they have had to enclose it.

Therefore we are getting into a more rapid operation. You make your first exposure and you wait a second until the powder all drops down in the cabinet, turn a little ratchet and move to the next little tray, and you can make eight negatives without having to reload the machine.

Of course there is the difficulty sometimes of the whole works blowing up at one time.

*Worley:* Apparently the manufacturer is very quick to pick up and bring out new things for the progressive photographer.

*Blaker:* Yes, sir. I was talking with one of the manufacturers and they feel that soon they will be able to eliminate the alcohol light. The principle was that this little flame was burning about three inches below the little pan, and when you squeezed the bulb this had to be an instantaneous affair, and you squeezed the bulb that fired the light with one hand and controlled the camera with the other hand. You opened, exposed, and closed, and that eliminated the old replacing of the hood on the lenses.

### Lighting Control

We have shutters now. That is another new advantage. Things are coming fast. I know one photographer who is wearing a wig because, instead of loading this from a distance, he had it down where he was actually looking into the pan with the light burning. He has no hair. He doesn't like this new type of lighting.

*Worley:* There is a certain amount of hazard, I suppose, in all progress.

*Blaker:* There certainly must be. So far we have been very successful.

You asked a question a while ago that I would like to talk about just a minute, because that, too, fits into this new type of photography. You see, today photography has advanced so much that we can now control the lighting, we can now control the negative quality. We can intensify the negatives; we can reduce the negatives, and now we have a new thing. We are doing brush development. During the developing period we take the negative from the developer and put it in water, just plain water, and then, under our red safe light, we have ample light to take a small brush with a strong developer and intensify the little round lights and the little highlights that we should have intensified. Then, after the negative is fixed, we then take the brush again with a reducing agent, and we will reduce the areas that we think are too high in intensity, until we print the negatives as they are. That is the mark of a fine photographer, to be able to manipulate so that he can make straight prints.

Another new method we have is to make all of our pictures on a plain black background. We have a new solution called ground glass substitute that we flow on the backs of the plates, giving them a rough ground glass appearance, and we can work with little stumps of cotton

and graphite on the backs of the plates and print in any kind of background that we need to finish our print as we would like to have it. That gives the photographer a chance to be individual. He is becoming an artist now, a real artist. As soon as the smell of hypo disappears he will be able to mingle with society.

Now I would like to spend just a little more time on the lighting. Let's see; let's kind of straighten the back just a little bit. Will you hold the book with one hand (*left*), bring this one (*right*) forward?

You see, Mr. Worley, by having the book and bringing the hand in in this manner we can make a circular composition and print it in a circle. We are getting away from square pictures and we are making pictures of panels and circles and triangles and we are not just worried about an image now; we are trying to create something artistic.

We are trying to develop realism, as if she were actually reading. This you couldn't do with a head clamp.

That's fine, Mrs. Carrier.

Here again, this is a delicate situation as to just how you would light the picture. In this case I think we will bring the light forward at the same 45° angle, measuring two feet to the front and three and a half feet forward, using our reflector just to fill in.

### Concentrate on Expression

*Worley:* Could you furnish me with a diagram of this for our publication?

*Blaker:* Yes, I will. I can give it to you very simply. If your feet are about twelve inches long you can step it off. Some photographers feel that it is beneath them to put little "X" marks on the floor, but I can't see any difference, really, in using a yardstick or putting "X" marks on the floor, except they want to make it appear that they can read a yardstick, I guess. But if I measure two feet here, three feet forward, four feet from the floor, one-eighth ounce of flash powder with the present speed of the film, we just can't miss.

Now, Mrs. Carrier, will you let your head tilt away from me, please?

We can do a variety of things with Mrs. Carrier. We can make head pictures, forward, to the side, looking over her shoulder in a cute way, all of which was impossible with the head rest, just looking into the camera.

*Worley:* I notice that you do quite a bit of your posing, and you concentrate on expression. You have her smile. That's rather unusual, isn't it?

*Blaker:* Yes, I think it is unusual that one can concentrate on expression. I made pictures for many years under skylighting, Mr. Worley, and I now feel that my time, except for the fact that I learned to read light—I would like to tear up that file and throw it away, because in all my time I have never created a picture, and probably never will.

A little more forward. That's fine, just like that. Now, would you just look at the magazine, just like that? That's good. Fine!

Let's make one more of you. Just turn toward me just a little bit. Let your hand come up here, like you might be talking to me. Do you see how easy it is? You don't have to worry about holding still.

That is one of the failures. You start your pose too soon, not realizing you have to reload this machine, and you have to start over. Just take it easy, now.

To be sure, we should measure our light always, and have it set approximately where we need it. You can quote me as saying—no, you had better not quote me; off the cuff—we may lose a little quality here because we are striving so hard to make pictures that will have a little more animation, that will live instead of being so stilted, but I am sure that with the use of this machine, and as we grow used to it, we will soon have the same quality.

The oldsters claim we are using tricks to do the background, and this is trickery and we are not getting good solid quality, but we have lived too long with quality, I guess.

*Worley:* Apparently there is a certain degree of resentment from some of the old-timers to these new ideas you have.

*Blaker:* Yes, I am afraid there is—turn your head toward me. I am afraid there is, but I am sure that when they come to the next conventions they will see our prints hanging and they will determine that maybe they ought to try it once.

Let's bring your hand up, just touching your chin. Lower your chin a little bit. That's it!

We could use the same lighting, we could use split lightings, bring our light lower, violate the old rule of 45° of angle, and have very few complaints. In this particular instance I think if we used our lighting at four feet from the subject, our reflector about the same distance, we would find that the light on the reflector side

would fall off about one-half, therefore we would have a nice split light. Of course there is guesswork to start with until you make some experiments.

We are paying much, much more attention to the hands. We are striving to slenderize the hands. We have been reading the art books and we are slenderizing the hands and photographing either this side or that side, never flat, you see, because that is the way the great painters painted them, and we are now becoming artists with a medium that we can control.

Now, with that lovely little Southern smile, there we go. That's the way we do it.

*Worley:* That's marvelous, Mr. Blaker.

*Blaker:* Mrs. Carrier, you may be excused now. I think we will have you a set of proofs done in a few days, and I will send them over by messenger. Thank you very much. [Applause]

*Worley:* Mr. Blaker, you don't know how I appreciate this interview.

What do you think of the future of photography?

*Blaker:* I think the future of photography is glorious. I am a charter member of a new group. It is a little over ten years old, called the Photographers' Association of America. We have had some tough times to make photographers come in and tell us what they were doing, but gradually this is becoming a fact, that we are going to be organized, we are going to stand together and we are going forward, I believe, in photography.

I would just like to make this prediction, that some day we will be making instantaneous pictures in natural color.

*Worley:* Thank you very much. [Applause]

*Steele:* Thank you, Mr. Blaker and Mr. Worley.

And still, ladies and gentlemen, new ideas were coming thick and fast. Presently a man named Thomas Edison invented a little gadget called the electric light and photographers were faced with still newer challenges—how to use it, how to adapt it, how to keep the roundness in the modeling that the old-time photographers could do.

After a few short years our present-day methods began to evolve. Our next speaker has asked for a short demonstration period because of his business schedule, and he will show you with what great simplicity photographers soon began to use this new medium of electric lighting. He is none other than your friend and mine, Mr. Lou Garcia. [Applause]

### One Light

*Louis F. Garcia, M.Photog. (Kansas City, Mo.):* I don't like to use too much equipment. There are fewer things to get out of order.

All I want to do this morning is to show you that saleable pictures may be made with one light. I have done it many times, and I hope to show you that it can be done so simply, so easily.

I brought my own model, a lovely girl, 15 years old. She is a lovely child and she could be a future Miss America. I would like to introduce to you Miss Sandra Painter of Kansas City, Missouri. [Enter model. Applause]

You may notice one thing. She is wearing a man's shirt over her own formal, because we are going to start by making this picture here. My assignment was to make pictures with one light and a reflector. I have deliberately eliminated the reflector. I have no objection to reflectors. They are very good and very desirable many, many times. But I just wanted to prove it could be done even without a reflector if you know how to read light.

Sandy, would you turn just a little bit more that way, please (turning to right)? Extend your right arm a little bit more. We used a little cold cream on Sandy's face.

Now, notice this light. To me, folks, that is the secret of the whole thing. I cannot make this picture and get the roundness and the texture of the picture otherwise. You just simply can't do it unless you use screens and reflectors. If I can do it without screens or reflectors, I much prefer to do it that way.

I want to tell you one thing, that the ideal set for pictures of this type would be a room that has a great deal of general illumination; in other words, two or three of these light bounced against the ceiling would give you a wonderful general illumination, which will give you greater shadow detail in the hair and so forth. That would be the ideal set-up.

Sandy, straighten up just a little bit. Tip your head a little bit to the right. Moisten your lips just a little bit. That's exactly how the picture (slide) was made—a lot of exposure, my lens stopped at f/8.

Sandy, would you just turn right around and take the opposite pose, please? The left arm goes out this time, Sandy.

Sandy, just turn your body away from me a little bit more. That's it. Bring your left arm out. That's the idea. Tilt your head just a little, not too much. That may be just a trifle too much. That's the girl. Fine.

If any of you object to the hot spot on the cheek, remember that we obtained that by putting a little cold cream there. If you object to it, don't use any cold cream on the face. However, working like this, unless a person has a reflective skin, I find it desirable to use a little make-up.

I always light from the broad side of the face when I am doing this type of work. Why, I don't know. I just like it that way. Somebody may be able to come along and light the short side of the face. Those are things you do because you like to do them in a particular way.

Now, Sandy, turn away from me just a little bit more. Bring your left arm out just a little bit. That's the idea; that's fine—fast bulb exposure.

Now, out of these seven pictures there is only one with a grin. I think you will agree with me that the more serious pictures are the more effective. That is not always the case, but it is very often.

I will tell you how I got the smiling one. You remember—you were going to give this to that favorite boy friend. That's the girl! [Slide]

[Slide]: Now, on this one I cheated a little bit. I put in my background light in such a way that I hit the cheek on the far side of the face. That is the way you get that highlight on the far side. There was no other change in the light. In other words, all I did was to take that light here and put it in such a way—I tilted it upwards and allowed it to hit the cheek, while at the same time hitting my background. That is how I got that highlight on the face.

[Slide]: Now, notice, I am simply paying attention to spacing or composition. I am also paying attention to facial contours, that the nearer I can approach the oval the better pictures of this young lady I will have.

Now, tip your head over just a little bit, and raise your chin just a little bit. Moisten your lips just a little. That's fine. That did it.

Now, in back of my subject I have a piece of vinylite .003" thick that hangs from the ceiling. I use that in the next two pictures. I prefer this to lame'. I don't like things that detract or take away from the subject.

Now, Sandy, swing your chair toward me a little bit. Turn the chair a little more. Bring that left shoulder down a little bit. Lean forward slightly. Now I want you to look right here at my hand, tipping your head a little bit. Now I will reverse the light. By the way, these are the young lady's gloves. These are not my props.

So now, Sandy, straighten up just a little bit and lean forward slightly. That's the idea, just like that. Now look up here at my hand. That's it.

Thank you so much. Please give my model a big hand. [Applause]

### Portraits with Impact

*Steele:* Thank you, Mr. Garcia.

People by this time were changing. Portraits had to have more impact. Newspapers were beginning to publish pictures. Public figures wanted their pictures to stand out a little more than the ordinary run of soft, good photography such as these gentlemen before had been creating.

And so glamour was born. Out of the flashlight era, the skylight era, from the beginning of mazda, came this new thing called glamour.

Now I would like to ask Max Munn Autrey, that Californian gentleman from Texas, to tell you what the early pictures were like.

*Max Munn Autrey, M.Photog. (Hollywood, Calif.):* Well, this is certainly a good opportunity to say a few words about the great State of Texas, but I know you don't have time for that.

Folks, you will notice the pictures over here. At your leisure, when lunch is called, if you would like to look at some of them, they were made in the early '20's, when I first came to California and was starting work for the old Wetzell Studio. I made Tom Mix's pictures and he looked the way I photographed him mainly because I did it in a hurry, because I had a date for dinner that night and didn't want to fool around. He went back to the Fox Studio and told everyone how much he liked that picture. Up to that time nobody had photographed him the way he liked it.

I went to work at Fox and worked very similarly to what Lou has just shown you, with very beautiful lightings, but they were soft. I was making these pictures out at Fox and I thought they were very nice, but they said, "Max, your pictures are not reproducing well. They are too soft. They need more punch in them."

I said, "I would like very much to know just exactly what they do want." I said, "Why don't you call a conference of the newspaper

planters, the people who come out to the studio to gather up photographs for newspapers and magazines? Have them bring along the type of photograph that they think reproduces well, and I will certainly try to duplicate them."

So we had this conference. I suppose there were ten or 12 newspaper planters there, and they brought over these pictures. They were all made with flash guns. They were made by newspaper photographers and they were actually white-washed. I want to show you just the way they did that. (*Enter model*)

I am asking the young lady if she would pose for me just for a second. In those days, in the '20's, all the newspaper photographers were using these flash guns, and the lighting was the same as it is today, with the flashbulb.

I noticed that every one of them had this terrific black shadow directly under the nose, and I said, "This is what you want?"

They said, "Yes. Give us pictures like that and your pictures will be published all over the world."

### New Main Source

So I went out in my studio, in the gallery, and I made a couple of flash pictures. We were used to making all the way from 50 to 300 negatives of each star every time they would come into the studio, so I knew the place would be pretty well smoked up if I used flash powder. You just couldn't do it, so I decided that maybe I could do this thing with a spotlight. Up until this time I think there were very few, if any, photographers using spotlights at all for a main source of light, but I was trying to create this shadow under the nose that they wanted. It looked ridiculous to me, because I had been trained in the type of lighting that Lou has just shown you, probably using a reflector and that sort of thing.

I hated for pictures to go out with my name on them with that sort of lighting. It was just too much for me. So I started trying to get the same thing, and I thought if the shadows were not quite so dark they would be much better pictures to look at, besides reproducing well, so then I brought in a little spot here, and the minute I did that I saw there was another shadow created on the other side of the nose. I didn't think that would do, so I started putting scrim on top of the glass to soften this light, and kept moving it in, and I called that a fill-in light. So that is the way spotlights were started.

From that we went on to make what we thought were quite glamorous pictures in the studio, and actually they did reproduce beautifully. That was a long time ago, but we are still doing more or less the same type of thing, although I think we have refined spotlight lighting a great deal. (*Lighting demonstration ensued.*)

We started using spotlights for front lighting. It wasn't because we thought we were getting particularly better pictures, but because they do reproduce much better, and if you are making pictures in your home town of businessmen to be used primarily for newspapers, I believe if you will start using spotlights and stay with spotlights for that purpose your pictures are going to reproduce much better. Thank you very much. [*Applause*]

### School Photography

*Steele:* Mazda light, of course, opened a great many new channels and challenges, and suddenly school work became of vast importance. Most school work, of course, was done just according to the principles that you have seen here with these lightings this morning, the good, sound, basic principles, and those photographers who understood those principles most were, of course, the most successful.

Today we have a gentleman to speak to us about his school operation. He is not a man who is over our heads. It is a talk just as we might have at Winona, and I am sure you will enjoy hearing Mr. Eldon Alexander give you this talk.

*Eldon Alexander (Brookfield, Mo.):* My part in this program is to explain as thoroughly as possible in the allotted time just how we go about taking care of senior photographs and activity pictures for high school annuals in approximately 50 high schools each year.

Most of the schools are small consolidated school systems in towns that have no local photographer. We never solicit the business of any school in a town that has a local photographer; however, there have been a few instances where we have been called to a school by a principal or yearbook representative because the school was not satisfied with the work of the local photographer.

In these 50 high schools, there are approximately 2,000 seniors, so you see, ours is not one of the large organizations in school photography; however, we have gone beyond the point where just a few schools within easy driving distance bring their seniors to the studio.

Ninety per cent of these seniors are photographed between September 15 and Thanksgiving.

For several years we carried portable equipment and would set this up in one room of the school. We didn't consider this a satisfactory arrangement because many of our schools were very crowded for space and simply could not spare us the facilities we needed. There have been instances where all the samples as well as a temporary camera room would be set up right in the corridors of the school. Most of the time, we would be given the stage for the day. With gym classes being held on the other side of the curtain, sometimes even basketball and volleyball games, it was nearly impossible to do what we would consider a reasonably good job of showing samples, taking orders, and getting proper expressions for the seniors. Many times we would find it very difficult to keep six or eight friends from making faces at the sitters and otherwise trying to be helpful to the photographer.

After a few years of operating in this manner, we were to the point of seriously considering dropping all schools which could not arrange to bring their seniors to the studio. At this time we purchased a used housetrailer and with a little remodeling and rewiring came up with our mobile studio. We thought we were original with this at the time, and by having nothing to copy from, we had unnecessary headaches trying to decide how to conveniently use a rather small and crowded area.

If any of you are considering a trailer for this purpose, I will be glad to answer any questions I can. I will be around the convention for several days and you can either check with me while here, or by mail.

### Two Room Trailer

Our trailer has two rooms and is 28 feet long and 8 feet wide. What was originally the bedroom is now the sample and sales room. Our lights and wiring are all overhead so we have nothing on the floor to trip over.

The camera stand is mounted on a hinged pipe arrangement that swings from the wall. We therefore have all the adjustments necessary without even so much as the tripod legs on the floor.

Because of the low ceiling we have the sitter's chair low, and in order to obtain proper viewpoint, the camera is necessarily low; therefore, we have a chair behind the camera. This took a little getting used to, but after working it both ways, I would rather jump up and down like a jack-in-the-box than to have to stoop for focussing. Right beside my chair I have individual switches for all the back lights and hair lights. These lights are seldom moved regardless of the pose, with the exception of the main light. While looking through the groundglass, I can turn each one on and off at will, as well as adjusting the strength of the lights by rheostat.

The subject's chair is a low contour swivel chair mounted a little off center. The average size senior sitting up straight can turn from side to side with this chair and the eyes remain in focus, and the head remains centered. We generally refocus on each second exposure. We can stand considerable difference in tilt of head and expression without going out of focus.

The main light is mounted on a boom directly overhead. The center of the arm is directly above the swivel point of the seat, therefore, we can swing this light in a complete circle and with the fill light remaining at a fixed position, it maintains the ratio between main and fill.

We do not have our power plant built into the trailer. We always make arrangements to get the trailer as near as possible to an electrical outlet in order to minimize the length of our extension cord, for the more cord used, the less voltage we get. We then have our main lights wired directly to a voltage control in order to be assured of the same voltage regardless of what it happens to be in the school. The regulator is necessary because we have found voltage from 87 to 126 volts in different towns.

### Jack System, Air-Conditioning

It takes a good brand of trailer to stand this kind of use. The frame should be reinforced and a convenient jack system arranged for putting jacks under all four corners when parked. A group of 15 or more people in a trailer without jacks can, and sometimes will, rock it enough to make it impossible for the camera man to work as well as making everyone a little "seasick."

There are all sorts of power plants available that could be installed with efficient mufflers, also they should be mounted on rubber to eliminate the vibration, and large enough to deliver approximately 5,000 watts. Most power plants include voltage regulators and would be powerful enough to give efficient air-conditioning when necessary

or electrical heat in cold weather. Even in cold weather very little heat is needed. These trailers are all well insulated and if the trailer is warm when the first group comes in, the heat can usually be turned off for the rest of the day.

I would recommend two one-ton air conditioners mounted on the roof. By being a self-contained unit with its own power plant, it would eliminate considerable confusion getting cars moved out of parking lots and so forth in order to obtain the best location.

With a big heavy trailer, one of the finest trailer hitch arrangements available is a very practical and economical investment. There are trailer hitches available that work on a leverage system that distributes the weight equally on all four wheels of the car. This eliminates the need for any overload springs, therefore, it will not ride like a truck with the trailer unattached.

Using a trailer for this work is an extremely satisfactory arrangement with most of our schools, for the school men appreciate not having to furnish space in the building as well as eliminating a certain amount of confusion that is always present while the seniors are shopping for their individual orders. The seniors pay more attention and cooperate better and there is a minimum amount of horseplay. The orders are larger and they seem to more clearly understand what they are doing.

### Quality Work

When arrangements can conveniently be made, we prefer to talk to the entire senior class in a group before we start. At this time, we have just a few samples and run through all the types of photographs available along with the prices and delivery terms. We do no special printing of any type for samples shown. All samples come from spare prints left over from our rush season. Our customers seem to appreciate the fact that they may expect to receive exactly the same quality work as shown.

We are not as yet into direct color. We have been watching it closely and occasionally make samples for showing. At one time we took two entire classes in color. The quality of our color was satisfactory; however, the orders were not. The desire for color is something that evidently varies according to locality. When the desire builds up a little more we will start changing to it.

The students come to the trailer in groups of 12 to 15. At this time the person in the sales room, with the entire line of samples on display, goes into detail in regard to how the placing of orders should be done, and answering individual questions. It is important that the sales person be thoroughly versed in all phases of the business, and for that reason I like my wife to take this job. She also explains carefully to them at this point that if they wish to send a check or money order for the balance due when the proofs are returned, we pay the postage on the finished pictures. If they prefer to wait till the order is finished, it is mailed C.O.D. and they pay the C.O.D. and postage charges.

### Order Blank

When we start with a new school we can generally plan on a very small percentage sending a payment for the balance with their proofs. In three or four years, it will usually be at least 50% that send in the balance at this time to avoid the C.O.D. charges.

The sales person takes the senior's tentative order and a deposit. This goes on a small order blank that has an original and two duplicates. The original is taken to the photographer for numbering the film and it is on gummed paper which is transferred to a negative envelope at another time. This eliminates the necessity of copying an order.

The first duplicate is retained by the sales person. This goes to our office and is used in any correspondence regarding any change of order or amount due.

The second duplicate is given to the individual as a record of the order as well as a receipt for the deposit. We request that the seniors take this copy home and discuss their order with their parents. About 25% of the orders have changes made after the parents have gone over the copy of the order with their senior. Naturally some orders are cut down. Quite often, however, the order is changed by adding another 8x10 oil and frame. There is no radical change in the order average as given by the student, or after being confirmed by the parents.

As soon as the students place their order, they come into the camera room and the sliding door is closed. Regardless of where we are working, the subject and the photographer are the only two in the camera room at a time. This has nearly doubled our actual shooting speed as well as giving more satisfactory expressions.

We generally consider 60 or 70 seniors a full day's work for two

people operating the trailer. We make black-and-white contact proofs from split 5x7 negatives. These proofs, along with an instruction sheet which repeats the instructions originally given to the seniors regarding extra retouching and delivery of finished orders, are mailed direct to the home.

The only way the school is involved with the senior photographs is the day the sittings are made. Each student is out of class from 30 minutes to an hour. Any correspondence which may be necessary regarding a change of order is done directly with the student or parents. Most of the principals and superintendents involved appreciate this method of operation for, after all, they are busy running a school and naturally could not be expected to watch out for our interests.

### Proofs

There are only three or four schools where we mail all the finished orders to the office. The principal delivers and collects, and sends us a check. We pay no commission to any school on our senior portrait work.

The seniors may expect to receive their proofs approximately one week after being photographed. The proofs go out in a clasp envelope that is to be re-used in returning the proofs to the studio. We also include a return address label for their use.

If no change in the tentative order is to be made, they merely put an X on the back of the proof they want used. If a change is necessary or if they want to split the order between two or more expressions they are to designate clearly on the backs of the proofs which part of the order is to be made from each.

The proofs are dated when returned to the studio either by mail or in person, and the finishing is kept in line according to the date, regardless of which school they are from.

Our production is arranged to handle most efficiently the types of orders that are most popular in our locality. The style bought by the dozen is almost invariably 3x5 size. We have never been able to boost more than a small percentage to 5x7. We use a strip printer for our 3x5 work. It is then hand processed in strips of four or five rather than machine-processed. Even though our negatives are split 5x7, we project for all sizes, including 3x5.

Our headsize as exposed on the negatives is what would normally be used for a 3x4 print. This leaves a certain amount of leeway for our printers in cropping and spacing. One enlarger is permanently set up with a strip printer for small work. Another is primarily for 8x10. Automatic timers are used in the printing room in order to gain speed and consistency during our rush season.

If any school has an early deadline for glossies for yearbook work, the principal is usually very cooperative by insisting the seniors return their proofs within a few days after they receive them. Generally we write letters to all the principals during the last week of November, listing the few who have not as yet returned their proofs. At this time we give them the deadline date that proofs may be received by the studio in order to be assured of delivery of the finished order before Christmas.

Most orders are finished and on the way back to the customer within three to four weeks after receiving the proofs. We, of course, gain on the schedule considerably during the last two weeks. If production is going well, we plan on mailing orders from the last proofs returned on December 20.

### Activity Pictures

We return to most of the schools again in January or February to take group and activity pictures necessary for the annual. This is what I consider the worst part of the business, for a certain percentage of this work has to be contracted for on practically a no-charge basis while contracting the seniors.

We try to have our prices adjusted so they are in line with the competition in this field and still take care of our net costs of activity pictures. If a small school tries to put out a rather large book, they owe us a separate group picture bill. The students in some schools like reprints of these group and activity pictures for scrapbooks and in a few cases there are enough reprints delivered to let the group work show up on the profit side of the ledger. This is, however, the exception rather than the rule.

A composite is made of each senior class and work on this is generally not started until the middle of February. The average senior order includes a quantity of 3x5 prints so we use these for our composite. We generally have a spare print in most all the negative envelopes. While assembling the prints for the composite, we, therefore, have only a small percentage that have to be printed specifically for this purpose.

We have rebuilt an old-style hand-operated printing press and use

it for dye-cutting our composite prints. Our standard composite layout has become nearly automatic with us so it does not require an excessive amount of time.

### Master List

Our prints are numbered. We have given each school a number, then each senior is numbered as photographed. If a print should be numbered 44-67, we automatically know the school as well as the individual. We then number the space on the mat board and the lettering is done before prints are dry-mounted to the board. We always work from a master composite list furnished by the principal. This is the last work regarding who is to appear on the composite, also the exact spelling of the names, class officers, and so forth. Pictures of the school building are used on the composite, if they prefer.

The large title is made photographically and dry-mounted to the mat board, in order to avoid the necessity of having someone available that is capable of a consistent and neat lettering job. The lettering under the individuals is done from a tracing template, therefore, the lettering is consistent each year, regardless of who does the job. After this original has been double checked and cleaned a copy negative is made and prints made for all seniors. Payment for this is included in the price of each individual order.

Approximately two per cent of the seniors we photograph want no order. Their original deposit takes care of the cost of making proofs, negatives, retouching, glossy print for the annual, and their copy of the composite. There is occasionally an individual who wants no part of senior photographs whatever and refuses to make a deposit. Some schools are agreeable for these not to be photographed and not to appear in the annual or on the composite. If the principal or superintendent *does* want these to appear, however, we will take only two poses, pick what looks the best to us and furnish a glossy to the school at no charge. This person will appear on the composite but will not receive a copy.

We explain to all our schools that the composites will not be delivered until spring. The seniors' copies of the composites are delivered at the same time as the original, for the school to distribute to all the seniors during the first convenient class meeting.

### Next Year's Business

I always try to deliver all the composites personally. At this time I have a visit with the principal or superintendent and if there has been any misunderstanding concerning any individual order during the season, it is always discussed at that time. This also gives me a good chance to see just how we stand concerning the next year's business.

If a superintendent or principal is moving to a different school we make a note of this in order to be sure to check with the new man early as possible in the fall. We rarely sign contracts of any kind and most of our schools have been with us for about eight or nine years.

Several of our schools were continually dissatisfied with what they had been receiving in the way of undergraduate package pictures and as a result, about five years ago, we obtained one of the regular package-type camera outfits. Although it started primarily as a convenience to a couple of our schools we now take about 10,000 students a year with the package camera.

We furnish a standard type package with the normal percentage to the school and we have not found that it interferes in any way with us also doing the senior portraits.

There are many superintendents and principals who appreciate having a satisfactory arrangement made with one firm for all their school photography. They are not bothered with 50 or so peddlers each year, trying to sell all kinds of picture deals.

The package pictures are rapidly changing to direct color and I have no doubt but that in a few years we will probably be doing all of ours in color.

We do not consider school work our principal business, merely a section of it, for it brings in a little less than one-third of our gross. We do, however, appreciate the work we have, and would hate to have to get along without it.

*Steele:* Thank you, Mr. Alexander.

This business has always had its serious side, but it has had its lighter moments too, and even the lighter moments must have their elements of instruction.

Of all my wonderful memories of Winona instruction one evening stands out particularly in my mind. It was an evening in which Mr. Laurence Blaker demonstrated his great skill at interpreting character in men. This evening was such a success that it became almost an institution at Winona, and for many years the students were, so to

speak, let go hog wild. They could make any kind of pictures they wanted, and out of those evenings I think some of the most creative and the most wonderful pictures have come.

I give you once again Mr. Laurence Blaker. [*Applause*]

*Blaker:* Thank you, Mr. Steele. Ladies and gentlemen, it has been my pleasure to work with and talk and visit with some of the photographers who made great pictures of men. I know that the reason they were great pictures is because they were developed on character and dignity. The reason that they were photographers of men was because, well, I should tell you the way George Kossuth explained the situation.

You see men who can do good pictures of women, and they are not particularly good photographers of men. You see photographers who do just the opposite. You see some men who can make baby pictures. But they are weak in all other types of pictures. So Mr. Kossuth summed it up this way—that you could tell the photographer's character by the kind of pictures he made. I think that is really true. I have been looking through the audience—

*Voice:* I object to that. What did you say?

*Blaker:* I said I was looking through the audience to see if I could find a man with truly—

*Voice:* I tell you, it's been a tough year all over. What are you looking for?

*Blaker:* Go down and get that man. Get him up here.

*Voice:* My name is McGillicuddy, Jack McGillicuddy.

*Blaker:* I think we can do something for you.

*McGillicuddy:* The doctor couldn't.

*Blaker:* Now let's try something with your hands, or something. Let's see if we can make a picture. Before you took up this profession was there anything else you dreamed about?

*McGillicuddy:* I wanted to be a cowboy.

*Blaker:* Could we make a cowboy out of him?

*McGillicuddy:* What have you got there, feller? (*Cowboy hat*) I wanted to be a cowboy south of the border.

*Blaker:* You are south of the border. Get the cuff down a little bit. Lower your cigarette a little bit. Bring the light around so the smoke will show. We found out a long time ago that if you bring the light around behind the smoke will show.

That's real good. Show him the slide. (*Slide*)

You can go further with this type of picture (*Slide*). You can do a little solarization, do a little bit of negative and positive, and come up with something that the amateurs like.

(*Slide*): And you can take that bum costume and get something of that kind. You can do anything you want to do with this type of thing—play with it forever. We use this type of thing in our studio when my employees get restless. After so long a time you get to the place where photography has become boring. When your employees get a little restless, get yourself a bum.

*McGillicuddy:* I would like to have something that would make me look a little more prosperous. Have you got a coat and tie back there? I might get a good job if you got a good picture where I looked prosperous.

*Blaker:* Yes, sir. (*Slide*) I want to tell you about the picture you just saw. I floundered around for 20 years in portrait photography. The only people that recognized me were commercial photographers, working photographers, and after starting to fool around with this type of solarization seven or eight years ago I was asked by my own state group to put on a one-man show, and I made 50 prints of various kinds, solarization of paper, solarization of the negative, negative and positive put together, poured dyes all over them. I had the most amazing bunch of nothing you ever saw in your life.

To my amazement, I have been asked to exhibit that set of prints in two art galleries. The Art Department at Kansas State University suddenly took an interest in the type of photography I was doing. I have been asked to appear before four large amateur groups, and the most glorious time was an opportunity to talk to about 2,000 photographers who were doctors, lawyers, teachers, travelers, who were in convention in Wichita. The only reason they asked me was because of this kind of picture. It certainly wasn't for good old portraits.

So if you want to get out of your own field and surprise a few people and startle them, try something original and different. I heard an art critic say the other day, "Modern art—you don't have to understand it. It is a success if it startles you." So make your pictures once in a while so they startle somebody, and you will be a success.

(*To Audience*): Mr. McGillicuddy actually is Mr. Shrader, a fine photographer in Little Rock, Arkansas. His father was a fine photographer. Some people call him "Buddy," but I call him "Jack."

My assistant is Mr. Worley, from Alliance, Nebraska. He is one of the finest photographers in the Middle West. (*Lighting demonstration ensued.*)

*Steele*: Thank you, gentlemen, for a wonderful job.

There is one man at Winona who is so loved and so essential to our operation that he might almost be known as Mr. Winona. I give you the most popular member of our staff, Mr. Gerhard Bakker. (Applause)

*Gerhard H. Bakker, M.Photo. (Milwaukee, Wis.)*: Thank you, Mr. Steele. It is certainly a pleasure to be here this morning.

You have seen one sun, two lights, and now let's progress to three lights. I would like to use, now, some flash-bulbs, not in reality but by means of the medium of the screen, so let's see what could be done when we look around in our community and try to establish a little better pattern so far as public relations photography could be concerned.

Too often I think we are doing the stereotyped sort of thing by using simply the established, easy way out—one bulb and that's enough. But then we are not getting beyond the amateur. We should do much better than that, and I feel if it is worth-while photographing it is certainly worth three bulbs. (Slide): Let's take, for instance, the case of your watch maker. You are going to photograph him because he has been in business for 50 years. We feel that now is the time to do something for this man, and in turn you want to photograph him with the old approach of handing him a plaque or, what is even worse, giving him a watch.

Why not show him at his own profession—show him repairing a watch? This was made with a semi-wide angle, 127mm lens, multiple flash—one from the back, one from the side, and one from the front.

Now comes the part where composition has to be brought up very solidly. You must remember that newspaper space is quite expensive, and in turn you have to try to make the most of it, so keep your composition as solid front to back as you possibly can. Try to avoid having extraneous areas open that wouldn't do any good for the photograph itself. Try your composition to the maximum so you don't have too much extraneous space.

(Slide): This brings us to a very casual sort of photograph, with the extension of the flash inside to simulate light inside. Father has built a doll house for the little girl, and it makes a good publicity photograph.

(Slide): Now we come to the very much abused fill-in light. I am sure you agree that fill-in light is one that can do a great amount of damage, not only in the studio but also outside. Here we have fill-in light where the atmosphere has been preserved. You still have the feeling that sunlight is the main light and the fill-in light has been used. You cannot possibly detect a second set of shadows. That is the important part of a fill-in light.

(Slide): Now we turn to the father and son dinner which so often we have to photograph, and too often you find that it is being done in the manner of showing endless rows of people eating, and only confusion sets in, because we cannot possibly handle more than a few at a time, so I find it to be much better, as a suggestion, if you take the skinniest boy in the entire set-up. Feed him the biggest drumstick and you have, then, a very tight composition, instead of having the endless rows of people sitting and eating. Again, keep your composition very tight, because printing space is very expensive.

(Slide): Let's take another case, where the local PTA group has been very successful in raising some money and they feel that they ought to do something for their traffic cops, as they are called. The problem now is, if course, that they have bought raincoats and you arrive there and want to take a photograph of it, and unfortunately what happens? The day you want to take a photograph the sun is shining as brightly as it is today in Los Angeles, so you have to be ingenious and try to find out what you possibly can do in order to get the feeling of rain. So you look around the school, and fortunately you come upon this shower room here. In order to advertise the raincoat, the only way to do it is by means of water or artificial rain. I find again that this does make good publicity and it does the job it is intended to do, namely, to show a raincoat and also rain, whether it be artificial or real.

(Slide): Mrs. Smith is going to Europe, and instead of photographing her in the usual way, why not try to do it in a little different way? Here you have the set-up of the travel agency. You have the globe, the map in the background to give atmosphere, and the travel agent selling her the ticket to Europe, and it doesn't need any caption at all, because it is practically self-explanatory.

(Slide): Here is a photograph that you should never photograph, because here you just have masses of humanity that no picture editor will ever be interested in using, because it is unidentifiable. This is an absolute waste of your energy, the film, and everything else.

(Slide): This will be much more explanatory because it tells the same story. It shows the approach by just taking two people. Two people are much easier to sell to an editor than a whole table full of people.

(Slide): Even a fire has beautiful pictorial content. In this particular instance the ice was so slippery—it was ten below zero—the firemen were unable to keep their feet on the ground, so they had to do the job kneeling down. Again, use your composition very close, being careful of all extraneous faces that do not mean anything.

(Slide): This is the documentary type of photograph that shows the remnants of the fire, and in turn we have with the aid of the multi-flash unit, introduced some form of modeling. Without this you would have a very flat photograph.

(Slide): Here you have a beautiful park in the winter in Milwaukee. How beautiful it can be, and it is very simple to take. You people here in California probably have as much of it as we have when you see how you can photograph it. You set up your camera. All of these were made with a 4x5 Speed Graphic. Use a flash on the right, keep your camera open, and run very fast and use a flash on the left, and hope people haven't moved very much, and there you have the result.

Thank you very much. (Applause)

*Steele*: Thank you very much, Mr. Bakker.

About this time the Director of the school would be cautioning you to be back on time this afternoon. Thank you and good morning. (The session recessed at 11:45 a.m., and re-convened at 2:05 p.m.)

#### Afternoon Session

*Steele*: Good afternoon, ladies and gentlemen. We of Camera-craftsmen who are putting on "A Day at Winona" are contributing our services and our expenses in order that the National will present the check that they normally would have paid for our expenses to the Winona School.

I am sorry about the delay in the program. We have had some difficulty with models. One was in a wreck; the other is we do not know where, so with your forbearance we will simply shift the program around a bit.

Now, Gerhard Bakker, "Mr. Winona," will talk to you of the thing that is so important at the Winona School, and that is print criticism. Mr. Bakker is, I think, superb at criticizing prints. You not only learn what is wrong with them but what is right with them.

*Bakker*: Good afternoon, ladies and gentlemen. This afternoon I would like to start out with what we would be doing at Winona in a print evaluation. I would like to make it in such a form as trying to more or less reach all the different phases of instruction we would be doing at Winona itself. It may be the portraiture of men, head and shoulders, three-quarters; portraiture of women, oil coloring, everything including commercial. Without further ado I would like to ask that the house lights be lowered and that we have some darkness on the screen, and we will then start up.

(Slide): Now let's start out with this very often misplaced light, namely the back light. In itself it is very useful, but as it is placed there it really doesn't do much more good than to attract attention to the ear, and I don't think generally people need to have attention attracted to their ears, unless it is an advertisement if a hearing aid device.

(Slide): The next slide will show a variation that can happen when we have a lighted background that in this case becomes extremely brilliant. Let's try and find out what causes this light to be so bright.

(Slide): Here you have a circle, and nothing happens. It is a piece of white paper with just the circle around it in this area, and if we add some air brushing around this circle you will find out that the center area is going to look much whiter than it did before. Don't always be satisfied by hearing the statement, "That's the way it is," and everybody says "Amen." When you look at a great area of white, then you have a complementary area which would be black. On the other hand, when you have an area surrounded by black, this area seems to be much more difficult, due to the fact that your eye sees the complement of black, which is white.

(Slide): Too often we use a head screen and completely misuse it, to the point that we begin to chop open the human face, not as a round form but as a cube. It looks like a box, practically, now. Here we have a definite indication that the head screen is placed much too close, much too hard. That shouldn't be that way at all.

(Slide): Now we come to a portrait of a young man, and he looks very young and he looks awfully soft. It is a very soft kind of portrait. In fact, it is so soft I just don't care for it. You may like it, and many other people may like it, and that is what makes it interesting, that we don't like everything the same way. There are a few things I would like to point out to you. There are two things that do not belong together, such as the coat lapel, which has a light of its own, and the chin has a light of its own, and the two do not belong together, and you see the fusion together of the chin and the coat line here, the lapel line. Here is too much growing together. In addition

to that there is a butterfly type of light that makes him extremely soft looking.

(Slide): The next is a portrait, also of a young man, which I think is preferable to the first one. Whenever we have a face where there is a very predominating chin, and this boy sure has a terrific chin, see to it that you select a high camera angle instead of a low camera angle, and bring the chin within the angle of the coat. Your eye is much more deceived and it will be distracted and there will not be the attention on the chin as it would be if you had a low camera angle and the chin would be out facing the background.

(Slide): That brings us up to skin tone. So many go wild about it. I think it is a wonderful thing to have skin tone. There also is such a thing as being carried away and having too much skin tone. Let's try and see how far we can go with skin tone itself.

This old gentleman has been photographed with good dimension and quality, light coming from the back, another light coming from this side, and fill-in from the camera side. One thing you must remember, that the angle of incidence is equal to the angle of reflection, and where the angle of reflection comes in you are losing not only the skin tone, you are losing color, you are losing everything if this angle is too steep. You have a highlight that is so bright that within this area nothing will be visible.

(Slide): And so we go on where the human face is really being butchered. There is more going on right around the nose section, the upper lip, the lower lip and the chin itself, within a small area, and when you begin to subdivide these areas all over there is nothing left but hamburger.

Let's analyze them, one, two, three different planes—five on the nose, five planes on the upper lip, five on the lower lip, and two on the chin. So we have a tremendous amount of activity going on within this area. When you begin to butcher this from two sides there is nothing left but chaos, and then it doesn't look like a human face any more, so go easy on that type of approach.

(Slide): That brings us to skin texture. If you are in love with texture to the degree that is shown here, then I feel you might just as well go to the zoo. (Slide): There is the greatest skin texture anywhere in the world. That is the hind section of an elephant. That is a young one. Imagine what an old one would look like!

Let's see what happens with photography of women. (Slide): Notice how well this was lighted. It was lighted completely down to the chin, and that is often the mistake of the very good photographers. They are lighting only for the top and they forget the chin, and when people do that sort of thing in color all color is going to break loose.

Now let's go to a particular approach in photography that could well be called a composition with divided interest. What is a divided interest, after all? You will say that all these things belong together. They do, in a way. I don't know whether you would have this furniture in reality, but that doesn't make any difference. It makes a good piece of furniture to be photographed in.

This lady is looking to the left. As you generally enter the composition from the left side, providing you are reading from left to right, and I am sure most of us do, then you have the habit of looking at the composition, and you will be starting from the left to the right. The minute you do this, the advantage of composition when your model looks to the left is that you are leading into, and you are stopped by, the composition.

Now, whenever this happens, I am stopped here; I explore the composition, then again I take up my exploration, and I find a secondary type of interest by means of the two marble pillars here.

I would like to show you the next slide, where these things are in the same direction in which the key light comes, because wherever your key light is, that is an indication of the area on which you place the greatest emphasis. Therefore, if the key light comes in here (left), and you place the greatest amount of emphasis on this side, why isn't it very logical to have the secondary interest on the side of greatest emphasis, instead of in back?

(Slide): Here we have one of the very lovely portraits with the skin quality that Mills Steele mentioned once upon a time. Here you have the qualities of skin that you want to go up and really touch. When you reach that point you know that the portrait is finished.

That reminds me of a story. Somebody asked the great French painter, Renoir, "Master, when do you know when your nudes are finished?"

He said, "Son, when you want to get up and finish them, then you are done."

(Slide): This is by Everett Hofer, and I would like to point out that if you want to have your bride appear tall and very statuesque, as here, then the simplest thing to do is to watch what the old painters of the past have done—Gainsboro's beautiful, very famous painting of a lady leaning directly on a pillar, and the pillar keeps going up and up and up, and you have the feeling that the lady, and in this case

the bride, is also getting longer and longer and taller and taller, due to the fact that you are not cutting her head off here.

In addition, if you want to make a person look very stout, have horizontal lines in back, and you have the feeling that the model is being shortened. So, to get the feeling of height, place your people next to something that is workable and keeps them going up and up.

(Slide): Now we come again to an interesting bridal portrait. This is done by a man in Texas, very successfully handled. We have here a background, the curtain about three feet away from the background. That, in turn, gives an illusion of the window. We have here a bride, of course, that is most interesting because we have variable facial modeling going on, yet enough features have been retained to make it a very smart looking, elegant portrait.

I want to call your attention to one thing that happens particularly in bridal portraits. Here you have actually the letter "X," and actually here, so far as composition is concerned, it stops right there (at the waist). There is too much going on in one place, too little going on in another, and you have really got a three-quarter view. This is a little dangerous composition to do, but for variety by all means do it.

(Slide): This will give you an idea of what not to do. Don't photograph a bride head-on like this. You photograph an executive like this because that shows he has great executive ability, he is a go-getter. We don't want to have a bride be the go-getter. Any time you have a person with her arm out to the audience it means she has a tremendous amount of strength, and you don't need strength in the bride at this point.

(Slide): Let's see what the next slide could do just by changing the whole approach. Bring out the arms slightly, close them, and then from an optical point of view we feel this narrows down the waist very nicely. That is a better solution than the first one.

(Slide): That brings us up to one more calamity, and this bride was too much in a hurry. She led up to the bench and suddenly came to a dead stop. This was going in that direction, the veil is going backwards, and there is really an awful lot going on. I would feel that this photographer was probably mainly a head and shoulders boy and he was a young man. As you can plainly see, there are too many folds and there is too much emphasis there. He was too young, and as he grows up he will just see to that.

(Slide): That brings us up to another point here. This bride here is just in a serious situation, because we have an awful lot of material that has been over-emphasized; we have a background that really ought to have been in the hinges of Hell, and you shouldn't have that much heat in back of a bride. You can't afford it. Try and throw away part of your light. Here we have too much light going on, and for goodness' sake, remember whenever you have a background hotter than the skin tone then the background becomes more important than the skin tone itself.

(Slide): Then we come to a very practical bit of advice, what to do when your bride has too much of a sun tan, and the remedy for this indiscretion is, put her against a background equally as dark as her sun tan, and you will find she doesn't look nearly as dark. The only trouble is probably on the arm, and there I suggest raising the arm up, and you will see that within about one minute the entire blood supply is being withdrawn from the arm and it looks so pale you wonder whether circulation is ever going to set in again.

Always try to pose your bride's hands; take the bouquet and put it in there, instead of having her grab it.

(Slide): I like this. Here you are stopped immediately because the girl is looking down, and you know what you are going to do whether you like it or not—down and down and down, and out you go. That is the way you are looking at it, and I think that is very fine and smart composition.

Now we come to just a few tips, where to place some of these things in reality, because all these people are looking for recipes: How much of this goes into it? How much of that?

(Slide): This slide will prove what I want to tell you. Simply take a diagonal line from one corner to the other; then take a line at right angles, 90° there, and wherever these two line meet, where the intersection takes place, there you find that's all you have to do to form a center line for the highest dominating part of your composition. It is as simple as that, except there is one thing the matter with it—it is too simple. (Showing of slides continued.)

(Slide): How do you establish a group portrait? If I had my way of teaching it, I would suggest turning on your back lights and keeping the front lights out, to see what type of composition you have. When you have unity, you can start lighting from the front.

Black looks smaller than white. Whatever I have cut out here will now be placed against the white background, and there is your answer why bridal pictures look much heavier here than here, because white looks much bigger than black, and that is why heavy people should stay away from wearing white clothes.

(Slide): Now we come to a different section, and that is, by showing less you show more.

(Slide): In this industrial photograph, these windows are distracting. As an example, I can show you the next slide, which has a much better impact than the first one. (Slide): Here is an impact that is absolutely opposite from the first one. By showing less you have a tendency to show much more.

(Slide): This photographer has added too much, and we often find they are trying to do too good a job and have lost everything. There are many, many shoes. In turn, you have created a line here on the diagonal. The diagonal line is one of the fastest lines in any composition.

(Slide): Then you see once in a while a man who is doing a terrific job. This is by Jason Haley, who has a wonderful color exhibit here. You probably say, "What good does it do you?" That is probably right, but you must remember that *Fortune* magazine is very interested in this particular series.

He made this photograph of nine lives of a cat with a multiple exposure. How could he do it in a more compact way, trying to dramatize in a story way that a cat has nine lives? When I saw it I was sort of mad at myself, thinking, "How could I be so stupid not to have thought of it myself?" That is beautifully done.

(Slide): This brings us to the commercial section, definitely, and you must realize, ladies and gentlemen, that the things that are darkest always have the greatest impact, and when you display the darkest objects on the back and at the top they begin to overpower the things in the front, and you are fighting a losing battle. (Showing of additional slides continued.)

It has been a pleasure to talk to you. Thank you very, very much. (Applause)

Steele: Thank you, Mr. Bakker, for your usual fine presentation. Ladies and gentlemen, I am sure that once or twice in every lifetime a photographer hears a talk that he would like to hear again. This particular one happened about ten years ago at Winona School of Photography. It was a full evening's talk, but today we will be privileged to hear my favorite excerpt from that talk, a very short excerpt. I am sure if it could be done in its entirety it would leave a lump in every throat and a tear in every eye.

This talk was written, not from the brain but from the heart. I am pleased once again to introduce to you Mr. Carl Blakeslee. (Applause)

### Pictorial Photography

Carl W. Blakeslee: My friends, I want to talk to you just a moment about pictorial photography, pictorialism in your daily production of portraits.

First of all, we must know what pictorialism is. And I can't tell you. I can tell you what it is not. I can't take a camera at a certain height, with a lens at a certain aperture, exposed on a certain film scientifically prescribed by the book, metered by measured light to the exact exposure, developed in a certain developer at a certain temperature for a certain time, printed on a certain paper at a certain time and developed in a certain developer, scientifically correct, hang it up, dry it, dry mount it and put it on the walls of a salon, and have a masterpiece. It is impossible. That is what pictorial photography is not.

Then there is evidently something else that enters into this scientific approach, which is more or less intangible.

My father was Irish. His hair flamed and his spirit flamed within him. He told me as a boy, "Son, it is the wee bit things that, put together, make the big things." I didn't know then what he meant, but I do now.

In the long night watches, when you can't sleep and you hear the distant, long, moaning wail of a train whistle and it does something to you, and you leap out of bed and you want to go to far-away places, your feet itch and you want to go, it does something to you here in your heart.

The faint little chirp of the mockingbird in the pepper tree outside your bedroom window at two o'clock in the morning by the moonlight means something to you. It warms your heart because you know the bird is happy, and you should be. The rustle of the wind in the palm tree reminds you of places where pleasant things have happened to you. The pattern of the sun through the live oak in your back yard, on the grass on the lawn — the checkered, beautiful pattern, it warms your heart.

### Little Things

Those are the little, wee things that we usually shrug off as unimportant, as things not to be thought of because there are bigger things. But there are not. They are the things that, put together, make the big things.

And when, as you travel down the long, rough road and you are in deep grief, you are troubled and your heart is sore and you have done all that you can do, that you know how to do, and still your heart is troubled and you see no end to your troubles and there is a wall across the road, the path is blocked and it is humanly impossible to get over the wall, over the barricade — you can't go 'round it, you can't go over it — and as you are standing there with your eyes full of tears and your heart is low, and a man comes and puts his hand on your shoulder and he says, "Son, I'll help you; son, I'll help you," and you look up into his face and you see there a light that comes not from without but from within, and all at once the wall is gone and the road is open and it leads onward and upward — those are the little things, the wee bit things of life that come to you and come to me, and if we disregard them we are doing wrong, because that is pictorialism. It is here in your heart, in your mind, in your soul.

What I am trying to say is that if you will take the beaker, the flagon of science that you get every day — you get it through the mail — and sift into this beaker of science gently this priceless ingredient of pictorialism and drink it deeply, you will be transported as on the wings of the morning, and the world is yours. Thank you. (Applause)

### Find Beauty

Steele: Such enthusiasm as that must make each one of us stop and think of what we have learned in photography. I know it has me. And I have wondered, often, on too many platforms, where I have opened my mouth too many times, what I was trying to do. Surely it wasn't in any sense that you could put a light here and expect some younger photographer to go home and do it just that way. There had to be another answer, and I think Carl has expressed it so wonderfully. We must make those younger photographers want to go home and find beauty and be able to see beauty.

As I look back, I think that I have tried rather to do that than to say explicitly that "This is where the light must go." I remember a demonstration I gave many years ago, first at Winona and then on the National platform, and it was with no thought of having photographers go home and do just what I did. It was to plant the seed of imagination in their minds. I took the text of what was then, and still is, of course, a play called "Pygmalion." It is now better known as the musical, "My Fair Lady," and I was listening to it over the radio one night, and the visual picture came of the little flower girl sitting on the curb selling flowers, and the story progressed whereby this man took her and educated her and eventually presented her as a princess at court. Those pictures went through my mind, and I thought what a lovely visual image it was.

So today I should like to do just the beginning and just the end for you. Our lovely model, of course, is none other than the wife of our President, Mrs. Madison Geddes. (Enter Mrs. Geddes.)

I did the whole series of pictures of Elizabeth Doolittle as she had been played, with flowers. Of course then we had the pictures to show. Now, today, we haven't. I just want you to think of her as the little flower girl on the curb, and I thought how easy it would be to transform her into something else, and it is easy in your pictures and in mine if we use, as Carl says, the priceless ingredient.

So let's begin, now, to transform the little flower girl into a princess at court. (Lighting demonstration ensued.)

### Elastic Lighting

You have already had a hint this morning of how glamour started, and now we should like to show you some more. Probably the greatest exponent of this type of work in the country is our very good friend Mr. Max Munn Autrey. (Applause)

Max Munn Autrey: Those of you who were here this morning, I showed you why we used spotlights in the studio, the reason being that we wanted a little bit more punch for newspaper and magazine reproduction. They were so glad that that could be done — black, black shadows and highlights that really were brilliant. So I am going to try to show you not so much of the glamour department today, because I think you have all seen that and you have some other programs coming on that really have that. I am not saying this is the only way to make pictures. This is the way I make them.

I am going to start out with a very simple little girl that might come in from college. I usually start with just a little white blouse, and we can go from there into a little more glamour, as you might call it.

First I want to give you what we call elastic spotlight lighting. You have all had this more or less, but as I go around the country, the spotlight lightings I see in most cases just miss. Either the shadows are too dark or they are too washed out, so I am going to give you

exactly the way I work, and I hope it will help you. (*Enter model.*)

I can tell you that my key light is 250 foot-candles, and I always work the same. I believe in standardization. I start out immediately with my key light at 250 foot-candles, and the exposure on my camera is 1/50 second at f/8, and I always work the same way. Now, we always light the hair slightly, not too hot.

Now, this lighting is your fill-in, and I always use this at 64 foot-candles, and try to use this as close to the camera as possible. This sort of washes out the shadows a little bit under the nose, and doesn't give that terrific black shadow that you see so much of. This is very simple lighting.

Now, at 1/50 second at f/8 the negatives are terrific. I develop in DK-50 1:1, 11 minutes at 70°.

*Question:* What film do you use?

*Autrey:* It is Super Panthro Press.

*Question:* Do you use a direct foot-candle meter?

*Autrey:* I use a Norwood exposure meter.

*Question:* How about your hair light?

*Autrey:* Actually, I have never measured it. This is a 500 and that is a 500. These lights are so efficient, I have to get this light back an awfully long distance to get 25 foot-candles, so I take out the reflector back here and use these at full load. On this one I use two spun glass diffusers in order not to create another shadow on the other side of the nose. I think that is very obvious.

*Question:* Blue bulbs?

*Autrey:* No, sir, they are not blue. They are just plain white bulbs.

I am just going to make a few poses for you, the way we work, very fast. I take 16 to 18 proofs of all my subjects, and I try to make them as different as possible, because I sell an awful lot of poses, and that is the way I make money. I get \$10 for each additional pose for retouching. (*Lighting demonstration ensued.*)

Of course I have been bawled out two or three times for talking about accentuating the positive, but most girls like to look like girls. In Hollywood especially we have to get a little of that, you know. And if you want to be a little bit more careful, well, I am trying to give you as much as I can give you so that will be a pretty nice picture.

Now, for you folks that like to do color, you can get one of these hula skirts and hang it up, and that is a really pretty background.

*Question:* How many lenses do you use?

*Autrey:* I always use a little piece of gauze in back of the lens.

You can get any degree of diffusion you like by simply burning a few holes with your cigar, one little hole in the middle, or none at all, for a little diffusion; a hole in the middle for a little more, a bunch of holes around here. Sometimes you can hardly tell there is anything there but the hole. That enables your pencil to slide right into those very wavy lines that are so hard to retouch, and you can hardly tell there has been any diffusion on it at all.

*Question:* Do you use that inside your camera?

*Autrey:* I use it right in back of my shutter. I drop it in and there it is, and it stays there for all the head poses. For all the three-quarter ones I take it out.

*Question:* What is the diffusing material?

*Autrey:* Just tulle, that's all.

*Question:* Do you use a "kicker" light on the side very often?

*Autrey:* This is the spotlight lighting I use. I am showing you spotlight lighting today. I wanted to bring you up to date on the way we are doing this. You are going to get other types of lighting from Mr. Tourcotte and Mr. Powell, so there is no use of me going into any other type of lighting.

*Question:* Do you use direct color with that lighting?

*Autrey:* Yes, sir. You can certainly do direct color with it. If you are using Type L and your foot-candles are 250 foot-candles for your key and 64 for your fill-in, as I have just told you, if you will put your lens to f/8 at 1/5 second you are right on the nose.

*Question:* What Kelvin are your bulbs?

*Autrey:* We are supposed to use 3200, but I have found that it doesn't make any difference. You can always do this same thing with the same meter reading with four floods, and you will get beautiful color.

I was going to say, if your 500-watt bulbs get a little bit old and a little reddish, that only makes the tone of your skin a little redder, and they can easily take care of that when they are making the print. Thank you very much. (*Applause*)

*Steele:* Sometimes I think when I go to Winona that taste maybe is sometimes more important than photographic technique, and the man who, to me, has the most refined taste in photographing brides, or any woman, is Mr. Wendell Powell. (*Applause*)

*Wendell B. Powell, M. Photog. (Richmond, Va.):* Thank you, Mills. Ladies and gentlemen, it has been my most gratifying privilege to teach at Winona several summers, and I can't think of anything more inspiring than to help these young photographers, these men

who are anxious to learn new things. It is especially gratifying after you have been there and wondered whether you have taught them anything when many of them write to you and tell you that they have appreciated it and are putting the ideas to work.

In this very limited time I want to show you just one or two things that we teach at Winona. I am going to start by telling you what happened last summer when I was instructing the advanced course.

One of the boys was posing a bride model, and as I came into the room he was mopping his brow and he was having a heck of a time. He was working as hard as the dickens, and he came up to me and said, "Mr. Powell, I have been working about 15 minutes on this pose. I am a commercial man. I figure I am a pretty good one, but I have had occasion to photograph a few brides lately, and I am just completely flabbergasted when they come in because I just go around in circles. There must be some principle connected with bridal photography."

I said, "Jack, you have exactly hit it on the head. There is a principle behind everything we do. And if we don't know that principle we are working in the dark and we are going around in circles."

And so, in bridal photography, it is really the easiest thing in the world to do if you get it on a basis where you are working on a definite principle. The only danger is in getting into too much of a rut.

So I said, "Jack, what are some of the basic qualities that we want in a bridal photograph? We want elegance, we want dignity, we want beauty of line, drawing; we want gracefulness and, above all, we want, when we get through—a regal quality." (*Enter model. Lighting demonstration ensued.*)

### Low Key

I work in a very low key. You have just seen Max Autrey working in a rather high key. One reason that I do work in a low key is, with all this white around us, if we blaze too much light on this white background, and I have my floor white and the background light and everything light—of course the walls are not light, but there is a great deal of light around it—you are going to flatten down, and that is the reason a whole lot of you, when you try to make white backgrounds, are getting flat pictures.

As we said before, first we want a queenly quality, a regal quality. I don't believe anyone has seen a queen slouching in public, and I see a lot of slouchy bridal portraits, and what it does, as you can see, is to make the gown very ill fitting and lose all dignity, all elegance, right off the bat, and you are licked. So the first thing we have got to do is to make our bride sit very straight.

Lots of times the girls today, I find in my part of the country, are pretty slouchy, and it is awfully hard to get them to sit up straight, and sometimes we have to use the finger right in the backbone to give them what we want. The minute we have done that we have increased the length, we have slenderized and made the gown fit much better.

In bridal photography we do want long lines, as was brought out this morning. We have now corrected one thing—we have got the bride to sit up straight. But we still have short arms. We have also made her waistline, by having her arm come down here, twice as heavy and thick, and no girl likes to have a heavy waistline. She wants to look slender. She visualizes herself as slender, so we have to do everything we can to give length, to give longer lines and to give a slender waistline.

Now we have an arm crossing the waistline, and if we have part of the waistline showing, imagination is going to carry on through. Many times we can't show the complete waistline, but if we have enough of it so that our imagination carries it on, we are all right.

I find it very helpful to have a few pillows around to drape the gown and hold it. In all our work, in all the pictures, I find that grace and style and dignity are created by curves, not by straight lines or angles, and we want to get rid of straight lines.

We try to make every line contribute to our basic pose and to the center of interest, and we are going to drop this veil. This is very bad, the veil coming down and forming a straight line and cutting into the hair. We want to pull the veil back, get one of the longer portions forward.

I made what I thought was quite a nice bridal portrait when I was very young, and I showed it to someone who was not a photographer, just a customer, and I asked her what she thought of it, and she said, "Well the veil looks like a tent," and that has always stuck with me. I have always tried to keep my veil fluffed out a little.

As Mr. Bakker spoke of this morning, if the bride is leaning in one direction, let's not have all the veil out the same way. Let's have it sweep from her.

Here we have too much concentrated light. We have got to look

out for deep shadows. Here, we have created shadows down in front of the face, in the eyes, making a terrific job for our retouching. In the old days of the skylight we pulled the reflector up to her just enough to keep that side luminous, but not enough to make a secondary light.

We always want, I believe, a direction of light. In starting any kind of portrait I advise the students to get rid of their fill-in entirely and see what this key light is doing. Then you can tell whether it is a flattering light.

Now we have the basic three-quarter lights. The next thing we are going to do is to take this light and tip it up a little and let that dress fall off a little, so we can get a little detail down here. I like to have the fill light facing the key light but more or less on the same side. We can vary this fill light to any degree that we want, with a heavy shadow or not, but it is not being a secondary light. It is merely illuminating the shadows, and the shadow is falling off as it goes around. The fill light is really in some respects more important than your key light, especially because you can just ruin an otherwise good lighting by the fill flashing it all out. I work with my fill lights high because I get quite a bit of general illumination on it, general bounce, from the floor and all around, and that fills up those shadows.

Each one of us is working for something a little different and has to approach it a little differently, so that this is not the only way to make a bridal portrait, but this is the way I find that I can handle it.

### Back Light

I am going to put a back light here which will illuminate only the veil, and for illuminating the background we are going to use a little "minnie." We can control that, make a spot out of it or a flood, or we can make it fall off above. It all depends on what we are working for. We have got to reduce that veil considerably. We can put a rheostat on it. I often use a much easier or less expensive way. I use a three-way switch, like we have on a floor lamp, 75, 100, 150, which I can vary. It is a very easy thing to burn up that veil so it doesn't look like material.

You can always put a little something in here to cast a little shadow, to give more depth to the background, but you want to watch your relationship. In this case, in the bridal portrait, your veil really is your background, the background of the face, so your key lighting is going to depend on that.

[Slide]: Here we have slendered her waistline. With the light veil there it was very easy to take a soft pencil and narrow that waistline on the negative. It is a very simple thing to do, and it is something that should be done on practically all brides.

Question: Would you show the pillows again, please?

Powell: The pillows are merely used to hold the dress, just under the dress. If you put the dress on the floor it is apt to just slide in. With the use of pillows you can pose a dress in position very nicely. We have eight or ten of them in the studio, and sometimes I use more than at other times.

Question: Is this the basic lighting?

Powell: I use practically all together a spotlight which is diffused, and the reason I do that is because I can control it, as I showed you. I can tip and concentrate it where I want. Another thing, it will bring out the folds; it will bring out the sheen in the material; it will bring out much more brilliantly the dress.

Question: What about dark arms?

Powell: I don't know anything to do with a pretty sunburn unless to use a little more exposure and then use a little dye on the arms. Thank you so much. [Applause]

Steele: You realize, of course, ladies and gentlemen, that this is just a teaser. I am sure the next time Mr. Powell teaches at Winona we will have a swell enrollment so you will get to see more of him.

We have come a long way today, from the old skylight and flashlight powder to what happens today, to the most ultra refinement in bridal photography.

Our next speaker this afternoon is one of the most distinguished of Cameracraftsmen. I shall ask his friend, Max Munn Autrey, to tell you more about him.

Max Munn Autrey: Thank you, Mills. It gives me a great deal of pleasure to introduce to you now our next speaker. This man has been with M.G.M. Studios for an awfully long time. As a matter of fact, when I first came to California, Clarence Bull was at M.G.M., and they must have liked him, because he is still there.

Clarence was one of the most wonderful personalities to me when I came here. I had a letter of introduction from Shreveport, Louisiana, where I was living at the time. And he took me through the studio and was such a wonderful pal, and I have liked him ever since. He is a great photographer. He is showing you how you can make

colored backgrounds without having to have them painted and all that sort of thing. At this time I am going to turn you over to him and let him tell you about it: our good friend and Cameracraftsman, Clarence Bull. [Applause]

Clarence S. Bull (Los Angeles, Calif.): We had an advantage at M.G.M., over anybody in doing color at the studio. As you know, color is very expensive. Realizing how valuable color was in the matter of magazine covers and so on, they were very anxious at M.G.M. to develop it, and we went through all stages. We started with Agfa plates, quite grany, and later Duffay came in. Still we had trouble with the engravers. They didn't want to be bothered with film; they wanted to make their own separations. Finally we succeeded in selling carbros. If any of you have tangled with a carbros you know how expensive that can be. We had to make our own.

The first sample we made was made of cigar box boards. It cost us six thousand dollars and never made one picture. It wasn't worth a darn.

Another old process was Defender's Chromatone. This was a stripping paper. You made your separation from a one-shot camera and had three colored images. You stripped this delicate tissue off, and with a good amount of luck you got a print. That was in about 1936.

Here is a print made with a camera developed by Dr. Curtis, the Curtis one-shot camera. In this case the original negatives were  $2\frac{1}{4} \times 3\frac{1}{4}$ . This was a sort of a dye transfer technique, and it was fairly good. [Print]

When Kodak had gotten around to bringing out Kodachrome in the sheet film form, and we finally sold the engravers on the idea of what they could do with it, they used it very well. Then we came on down to other materials—Ektachrome and so on. But our value in colors was in selling our people and, as you know, a color print will attract ten times as much interest as the other.

[Print]: Now we come here to a good dye transfer, made from one of our early Ektachromes.

I think everybody is going to wonder about retouching color. That is one of the greatest troubles we had at first, because a lot of our transparencies had to be submitted to the stars. In a recent picture, we have been making, "Never so Few," with Gina Lollabrigida, under her contract we cannot turn out one still that she has not O.K.'d the final retouching on, and that's tough. Fortunately I didn't have to photograph her. I managed to duck that. I gave that one to one of my boys. He spoke Italian and I didn't.

True magazine will insist on dyes. Most of them will take a color pencil and in many cases they will take a black and white pencil to retouch. However, nobody has successfully come up with a solution for etching, so we have to rely on the engraver to etch where needed.

Backgrounds are one of our problems. We can't use the same background for two stars. Once you have used a background you junk it and destroy it when you photograph the next one, because the publicity department has a bad habit. They put them up on mural boards all over the studio, and once or twice they put up six of my photographs. I was in a hurry that day and used the same background for two sittings. I had my ears turned back plenty, because each one wants a sitting with a different background.

So, then, it became necessary to try and evolve ways of making different backgrounds without the terrific expense, particularly now that we have certain TV companies that are working on a close budget and they can't put out so much money for a background. So one of the things we found that helped us most was the cellophane or Kodapak, which we use in the profession. (Demonstration) You can change it any way you want. We can brighten it. We turn it around and we can vary it.

Now, you see, when you look through it there it will vary in color. I use strobe lights. You have to get a little bit used to reading them, but it isn't too hard after you practice a little bit, and this material is inexpensive. You can use your own design by putting this crosswise or whatever you want, or you can stretch a sheet of it on here loosely.

Let's get a green put on there. Or you can put the same color on each one. If you keep your lights in the foreground away from that, here you can get any depth of color you want. If you want an orange, you can mix them and get that. If you want to wash it out, let a little light come on, a little light leak through from the key lights or the fill light, and that will take care of it. If I want a black background I just keep the lights off.

[Print]: This shows you one effect that we made with this same cellophane on the big screen. We wanted a rich picture to immediately attract attention to this young lady. They wanted something to bring out the fire, particularly in her eyes, so we used two red filters.

[Print]: In this one we were very careful to put just a pale blue on her. This shows you one of the reasons I like strobe light, and I

will tell you why. You will notice that is a living photograph. She isn't sitting there posing. Her eyes aren't pinpointed down by 3200 Kelvin until they are like needles. That is exactly the way she looked.

[Slide]: This shows you a daring combination of blue-green and red. This has hit about six magazine covers so far.

Now I want to give you just a few little tips on color. I want to tell you what happened to one of the leading catalog companies. They had an advertising company, that was handling the making of this catalog, who were trying to sell them color. They said, "No, we don't want to go into the expense of color. We want plain black-and-white."

The fellow said, "Look, let's put in about \$10,000 worth and see what will happen."

They did, and illustrated these print dresses in black-and-white and color, the same dresses, mind you. On page 40, we will say, was black-and-white at \$2.75; on page 60 they were in color at \$4.75. Guess which sold the most. The color—a great deal more.

We have been making color portraits, and we frequently have very important people. We are not in the business of selling portraits. We are not selling portraits to anyone. We don't even want to sell them to stars. So I am very sure if you folks get out and plug color, you are going to find yourselves having a doggoned good added income.

There are only one or two places where we have run into trouble. Temperature is of the utmost importance, both in the color of your light and in the temperature of your solution. You can't fool it; it has to be right. It is wise to follow the instructions of the manufacturers. They seem to know quite a bit about it, because they invented it.

It is also necessary to take in the unexpected. We found in shooting Type S color we were getting a strange bit of yellow coming in there, so we ran down everything and finally we figured that it was the modeling light. So, after we have our modeling done and are ready to expose, we break that down just enough to keep the eyes natural, and those are entirely free from that trouble. We found if our shutter worked under a 1/35 second it would pick up enough light from the modeling light to throw you into the yellow.

All I can say is, I wish you luck with color. It is becoming simpler every day. The operation of making these older prints here was ten times what it is to make a print today from the modern negative material or print material, and then you have the additional latitude of making a black-and-white if you need it. Thank you, folks. [Applause]

### Challenging Experience

Steele: Thank you, Mr. Bull. I have been doing quite a lot of color myself, too. We started out thinking that we would probably spend a lot of money experimenting and it would take a lot of work and, a lot of expense before we were able to make it pay at all. But we plunged right in and we didn't make a very complicated thing out of it. We just wrote the manufacturer and found out how far the speed light ought to be and that was that. We put the strings on the speed light at f/8 or a little beyond and it was as simple as that. Otherwise we acted, except for the filters, exactly as if we were doing a black-and-white picture.

Most of these we do on speculation, on those customers we felt would feel deprived if we didn't allow them to spend a little more money, and it worked out very well. We have not gone into our own finishing; we haven't bothered with that. It has been a very gratifying experience, not only from a profit point of view but because it is a new and challenging experience.

Of course, color photography is only as good as your black-and-white photography. If it is a bad pose, color is not going to help it much. If it is bad lighting, you must know enough about black-and-white photography that you won't depend entirely on color to save the picture. So today, we operate with speed light on basically the same principles that applied back in the skylight days.

One of the most successful pictures I have found in my own work is group pictures, and I would like to do just one group of two sisters, from which I sold one 30x40 print at a fair profit.

### Establish Contact

I should say the most important thing in the photographing of groups, whether it is two sisters or whether it is a mother with three children, or four or five—or I have had at one point a mother and eleven children—that some sort of unity must be established between the figures and the picture. You must establish what I would call a contact between the two figures, and as rhythmically as possible.

You will avoid, of course, all of those eye traps where the light shows between—as many as you can. Of course when you are

working with big groups, especially groups of children, you can't always pose them as exactly as you might wish, but I would like to tell you this: Our highest average in sales in my own studio is of group pictures. It is almost double any of our other operations. (Enter models)

Immediately, there is the problem of heights. And this is the most important thing, I think, in all group photography, that the relative heights must be right. You must give yourself a series of little boxes, all sizes, with which you can assure that the relative heights are right, regardless, and of course you immediately see that these two girls are much too far apart, so what can you do about it? First, you can ask this young lady to take off her shoes. That begins to help immediately. We begin to bring them together.

A great many girls come in and just fall all apart, and here is a trick that has always been so valuable to me in the photography of a girl by herself, or in a group. If you ask her to put this foot over here (indicating), put a little weight on that, and stretch—all the weight on the other hip, pushing up on this foot—immediately you can see the body stretch out and you can get some elegant lines, and it is a greatly different thing already. (Lighting demonstration ensued.) Thank you so much. [Applause]

One of the most fabulously imaginative photographers in the United States, as you well know from the work that you have seen, is Mr. Tourcotte. The elegance, the perfection of pose, the perfection of technique that he achieves in every picture you will ever see should be the envy of every photographer. I know of no one that I as a Cameracraftsman in Winona could be prouder to present than Mr. Courmeve Tourcotte, of Muskegon, Michigan. [Applause]

### Stress Elegance

Courmeve Tourcotte: Thank you very much, Mills. We are going to be talking about portraiture of women in color with the main stress not on color, but on the ingredient that I think is paramount in portraiture of women, and that is conveying a phrase that I almost feel Mills coined—at least I associate it with him—and that is elegance. I think you saw, in the demonstration Mr. Steele just gave you, how the subtle movements which he almost did with his voice, and each of us must accomplish them in different ways to a grown personality, the most subtle movements at the last few moments of that pose, made it become a thing of beauty. It became elegant.

In portraiture I think of something that is of a loved one, a wife, a husband, whoever it might be, to be used in the home, and that is, of course, the key consideration. We have beautiful portraits of women that are used for other purposes—illustrative, the theater, cinema. There they have different latitudes within which to work. They can many times use a great deal more color than we could use. In the home we need something which is going to blend in and not stand out, and when we start thinking in terms of color portraiture of women, we are automatically thinking in terms of a rather expensive product. At least that has been our experience.

Nine chances out of ten it is going to be used not like the majority of pictures in the past, in some drawer. It is going on the wall. I am going to show you a very simple approach which I think has a great many merits beyond the fact that it is comparatively easy to do, and that is high-key color photography of women. It is extremely easy to handle it decoratively in the home, as you will see.

One of the things that ran across my mind when I began to think of what I might tell you that would be significant was, I found myself trying to find ways and means of selling you on the idea of color.

### Impact of Color

Obviously, in all the beauty that exists around us, color is an inherent part of, and I think of probably the entire population of this country we, as photographers, have been slowest, who should have been the quickest, to realize its importance. We have acclaimed ourselves almost to be a "race apart," in a sense, to be able to see beauty in black-and-white, and, as you know, it takes a great deal of training to see that, to break it up. We can be so close to what we are doing that we don't see its impact. I am certain that if we were working directly with any of the big advertising executives trying to promote something they wouldn't let us get away with it as long as we have, this business of staying away from color, and perhaps we put it off because, as I said, we are so close to it that we can't see its importance.

This is the simplest way I know [prints] of telling you how important I have suddenly realized that color is. That is a portrait of my daughter made recently. She is 17 years old now and I am very sorry to say that is the first portrait I have ever made of her. But the interesting thing is, the first portrait I made, I made in color. I

couldn't get interested enough in the past to do it in black-and-white, because substantially I must have realized that photographing her, doing it in black-and-white, was nothing unusual, but the idea of doing it in color, since I feel very little color is present in my daughter, is an important part of making the picture seem more alive to me. So this sold me on color.

### Subtle Colors

If you think in terms of black-and-white, the subtle colors of the individual, the small area of brilliance in the lips, a little touch in the hair—actually a feeling of blues in places—those subtle colors, since they are working against virtually no color, have a chance to make their influence felt on you and are comfortable to live with in the home. You can use it almost anywhere, and something we are doing a great deal with our high-key portraits is using shantung mats with a narrow gold or silver edge and a narrow frame. It carries out that airy feeling even further. In the home it blends in, it speaks, but it speaks quietly.

Where we have introduced a prop we try to keep the prop in context, so it doesn't do much more than perhaps suggest the setting, and depth, and we have been very careful not to introduce too much color. Any color any place else will have to be used very judiciously, and what I am trying to show you is how to make high-key portraits, because I think it is much easier to begin with. As you get more skilled in the use of color you can go into stronger color. (*Showing of prints. Enter model.*)

We are not going to go into lighting. I would like to use a frame. You wonder what pose to use, what props, what you are going to have to say to the subject and a host of other things—what lighting to use. Actually, elegance is none of these things. I think the frame will help you to see why the subtle movements which are elegance in all varieties are so important to elegance, and why they escape our attention.

At the present time, our model exists in relationship to the entire room, and when she swings her body in one way and then the other, her movements do not impress you very much because they are in such a big area. Now I would like to bring the frame in and show you how simple it is to convey this elegance that I know most photographers seem to miss, and they miss even more as they go into three-quarters.

### Framed Portrait

Actually, we have very few properties to work with in the head and shoulders. We have the stem of the body, the shoulders, the neck, the head, and the eyes. We must use one against the other, and small movements within the frame are particularly important, and they are apt to escape our eyes if we don't think in terms of the frame, and that is the world she is going to live in, in the portrait.

The back doesn't ever want to be rigid, but we must have movement in it. Now we are going to move another element. The next danger spot is the shoulders. That is why we never say "Straighten up." If you say "Straighten up" they raise the shoulders. The shoulders need to be down as low as possible.

The neck is the next thing we are going to move. We started with the spine. We have moved the shoulders. We are working with the neck now, and altering the position of the shoulders, one against the other.

Finally we come to the head and the eyes. In addition to that, if we add the one ingredient when we are all through now of bringing our model, Eleanor, to life and having expression, which is nothing more than looking at her and letting her know you enjoy it—you can create elegance—from any basic head position or three-quarters, which I like to think is no more than backing the camera up, opening this frame up and arranging a few more details. But every head and shoulders that is good usually can be converted into a three-quarters, and every three-quarters that is good, if you check the head and shoulders, can also have grace.

### Technical Problems

We are going to have to hit some of the high spots. We work for 65 units of light. Actually, your color should be no different from black-and-white. Except for the fact that exposure is critical, all of the problems that exist in color, most of them, are technical. I would suggest that as you are getting into it, work through some good color lab. They will retouch your negatives, which is an art; they will do your printing, which is quite an investment for you, and they will do the art work on it, so it is merely a matter of photography in color.

If you are working in high key, using very little color, it will be

very simple. The thing to do is to keep your fill and main light relationship very close, usually 1:2 to 1:3. Perhaps as you go into low key you can go further. In high key, 1:2 is about right.

As soon as you introduce a prop, a short three-quarters or a long three-quarters, you have to keep it in key. And if we are going to be working fairly close with an arm position we are going to have to subdue this area, and silk organza is a wonderful material. All your properties are subdued. If you happen to be in a small town you don't have the problem of some obvious prop appearing so many times.

I use my fills at lens level. They are extremely soft; the subject can move any way and you have no problems. Cut your main light in and move it with complete freedom. This main light is practically converted to a flood because it has some Kodapak over it, and you have a very soft light. You don't have a hard shadow.

In the background effects, most of this plastic material is wonderful because you can place objects behind it. It keeps them very soft, and it does something else very important. It grays them out. It keeps the soft values of the subject down.

Any other lights that we would be using would be merely to accent something—a light on the hair, possibly a little lighting to touch the drapery, if we are going to vignette into it, particularly. But all those lights are of secondary importance, and they should be thought of as that when you use them.

### Designs and Effects

You have great latitude for creating designs and effects. I will mention some of them. Pampas plumes are one thing that is excellent, and your ferns and palm leaves. Flowers are gorgeous. They are easy to use, unlike most props, and they will never dominate your final result. This is the silk organza. It has body that will dance up and puff up and look like a Paris original gown. It is subtle in coloring. If it will complement your subject it will never get out of hand. To show you another thing which can be very beautiful, the one we are using is obtainable from decorators. It is a Japanese shantung. It has a beautiful design. By the depth of focus you use it adds, by just the simple addition of that, all the subtleties, and she is in so much more elegant surroundings. Once in a while take a walk around town and see what things are available. You will be surprised.

One other point. Be sure, in all your posing, you don't angle the shoulders. Check occasionally to be sure that the spine is not rigid.

I want to leave you with one thought, something that Cecil Beaton said in summing up what we should be questing in the photography of women, not getting lost in the light and the various other things which we can very simply standardize. Keep records of what we are doing. The shooting of color is as easy as black-and-white, if not easier, because we see the subject just the way the subject exists. We don't have to go through the gyrations that took many of us years and years to develop, the ability to translate colors into gray and have it look like something.

Beaton said that to create—this should be what we are questioning—to create what is more exciting than beauty itself, the illusion of beauty. Thank you. (*Applause*)

### Color in Print Exhibit

*Steele:* What a shame to have to cut Mr. Tourcotte off, with as much information as he had to give us. But we have one more magnificent man to present to you, and then we are through for the day and school will be out. This is the way it is at Winona, believe me.

But now we have the dean, I think, of all American color photographers. Mr. Maurice LaClaire was the first man in the United States to go completely into color. There has never been any question of his absolute superiority in the type of thing that he does. Mr. LaClaire will do for us today one group. He will show you how to balance daylight with speed light, and it is a thing of tremendous importance as you go into home portrait work and into other types of color. Mr. Maurice LaClaire! (*Applause*)

*Maurice Carnes LaClaire, M.Photos. (Grand Rapids, Mich.):* Well now, you have had everything handed to you. I don't know why we run Winona any more. You have had it today. I mean it. This last demonstration was one of the finest things I have ever seen—and he is new in color. I have been making it for 23 years and selling it for 23 years. I haven't made a black-and-white portrait in 11 years, and I am learning things all the time. So just think what is going to happen when these fellows that you have been listening to have been at it for a few more years. There won't be any holding us down.

Actually, the thing that impresses me most is our print exhibit. We have more color and more good color than we have ever had before. As one of the judges of the exhibit, I want to compliment a

great many people that have spent the time to make color prints and get them to this exhibit. I think they are doing a wonderful job, and I am going to pat myself on the back, because in 1941 I said it would be 15 to 20 years and we would have it, and that is 18 years ago, so I hit it pretty close.

I want to give you just one thing, and it stems from something our friend Mills touched on. He mentioned the fact that groups were very good from the standpoint of sales. When I left our studio we had a family group of 13 people in the window. It is quite an education to watch the effect pictures have on people passing your place of business. We have a very fine location and the right people, who would be interested in the type of thing we are doing, do pass there, both in cars and on foot.

The picture that stops most people—men, women and young people—is family groups. I didn't know that before. I have discovered that this spring, because we have made a great many family groups.

### Window in Background

We make them in the home. We are not a studio outfit at all. This last week I was amazed at the number of people of all kinds, all sexes and ages, that would stop and study a family group. I left Dave with about five or six of these family groups to finish, all but one of them made in the home with a window as part of the background.

That is done in two ways. Many of the modern homes have windows that go completely from the ceiling to the floor; in other words, possibly almost a skylight effect, except that it is a little low. When Mills wanted me to touch on the skylight, it brings us back to something we started with. And, say, I did start with a skylight. I am not ashamed of it at all.

If you have been over to Barker Brothers you have seen the picture of the lady in blue in the bedroom. That is very typical. That picture was made in a very beautiful new home, very modern. The windows completely surround the room, all the outer walls. The lake in the background is their private lake, and they wanted something of that kind, showing the home and the lake.

Where we do that, we make essentially two exposures. We take a meter reading of the window. If we are shooting directly into the window as part of the picture, then we must make an accurate exposure in order to reproduce what is outside the window. If we are using the window merely as part of the background, rather on the side, as a source of light, then we have another problem, which we take care of in two ways. Sometimes we even go to the extent of putting one of our speed lights outside of the window, shooting it through. I have done that very successfully. I have done it with both speed lights and with 22B flashbulbs.

### Light Balance

I remember back in Washington, more years ago than I want to speak about, we made home portraits and made a lot of them, and I always liked to use a window if I could. Unfortunately our problem was that if the bright light from the window was strong we never had enough incandescent light to balance it, consequently our faces and figures in contrast with the window were usually underexposed.

Well, we don't have that trouble any more. As a matter of fact, it is quite the reverse. Today we use speed lights. I use the smaller units, the Flashmaster outfit with 100 watt-seconds on each light; I have six of them. We have more speed light than we have daylight, consequently we have to work at the aperture of the speed light exposure, let's say  $f/16$ . That is generally about where I work, and you figure your exposure at  $1/5$  second or  $1/2$  second or, as in the case of the picture at Barkers, a full second, because it was a very dull day. If you do it successfully you will have a very balanced and very natural appearing part of that home, and I think that much of the appeal that those pictures have for people is in the fact that it is part of their home, and they use it, and it makes a much better background than accessories that you have in your studio. It is much better to have their furniture and their furnishings for a picture of that kind than to have synthetic things that you would put up in a studio for the same thing.

### Plan Ahead

Another thing we try to do is to plan a picture ahead of time. You don't make these things in small sizes. I'll tell you this: 95% of our pictures go on the wall. We make no pretense of making album pictures or small pictures other than duplicate prints for students going to school and that sort of thing. We are selling  $24 \times 29$ 's,  $30 \times 40$ 's, or  $34 \times 44$ 's—more than we ever dreamed. And once you sell one of

these in a home it is a conversation piece that brings you more business. We have a complete increase in that type of thing over last year, and last year over the year before, and it all stems from the ones we have hung in the various parts of the city, and in Detroit. (*Enter family group models.*)

Usually today, thank goodness, the backgrounds are plain or simple. I remember a picture just before we left of a mother and five children, with a window, showing the river through the window. It was a beautiful thing, with a background of bookcases.

You run into a problem sometimes with feet. The answer to it—they had a large dog. I think he weighed 200 pounds. He was wonderful. We laid him along the front there and he covered up quite a few feet. They said he was part of the family.

The type of group I am talking about is anything from five to 20 or 30 people. We have one group of 22 people, eight of them children eight years old or younger, and it is quite a task when you have that many people to come out with an average that they will settle down on one choice.

Now, if this was a skylight of the old days, it would be possible, if we had a skylight of this size, and average daylight, to make an exposure in here with nothing more nor less than a single sheet reflector. Actually I worked years ago in a studio where the skylight was so large that if you placed the person in the right spot you needed no reflector at all, because the light was so balanced because of the bounce from the surroundings. Here we will use just a simple reflector.

### Natural Appearance

Now let's carry that idea out, because after all, when you use a window the natural thing to do is to light it as it would look without the photography entering into it.

You know, I was very happy last night when the young lady said tubular dresses were going out. I have had several groups, and plan it as much as we can as to color and what they are going to wear, you will find some tubular dresses. I have had to cover knees on two groups this summer and both were red dresses. I don't know how many of you do retouching in color, but I can assure you a red dress is not an easy thing to build in and not have it show. (*Lighting demonstration ensued.*)

I am not going to attempt to do what we would do in the home so far as posing is concerned. What I am concerned with, and what I want to give you, is how to use the light to carry out the idea of light that would be natural here. As the light comes across and falls on those faces it is what we assume is a natural situation. It would happen in a home if that were a window. Unfortunately we have to sometimes add to that, because the light is not of sufficient strength to register for our color film. They are getting faster all the time, and I expect eventually to just walk in and take them.

So, if we are going to add a strong light to carry out the same direction of the light as the window, then I would place it as close to the window as I could and keep it out of the picture area. We do that with polished reflectors. Altogether I have nine of these lights. Three of them are polished and six are soft. The polished ones you use to augment that light and carry out the same idea. Sometimes I actually put them outside the window and let it come through, but more often than not all we need is one from up at the corner of the angle, as close to the edge of the window as we can get it, and we carry the light in the same direction, so we keep constantly in mind the source of the light, so that every individual face is receiving the light at an angle that would be natural.

Now, some people want all of them to receive the light at the same angle. I don't want them to. Another thing I do not like in groups, and I see so much of it and we saw it going through the pictures, is every face with the same identical light. In many cases it was extremely flat; it came straight down. They were like so many potatoes set up on a shelf. In others the light, even if it indicated a direction, would be just as strong on one sitting off here as it was on someone sitting here.

Now, you might think that is desirable. I do not, because I don't believe you would ever walk into a home where people are sitting around and see that light identical.

The only thing you will need besides your light that gives you your direction and indicates the use of the window will be your fill-in, and that is a matter of two or three lights, depending on the strength of them and the type that you have, diffused, please, because if you do not diffuse them you will have shadows all over the background if the background is at all light, and if it isn't light, use enough light some place in here at the side so you get a feeling of separation between these people and the background. If it is a light background you don't have to worry much, because if you have a window of any size at all you are getting some light, naturally.

Now your exposure. On your strobe you know what it will be. On the window it is going to be what you read with your meter, and it is as simple as that. And if you will give a little thought to that in the posing and the arranging and use of the colors—you wouldn't put pink beside black and you wouldn't put a strong red beside a soft pastel shade—you would think that out, and if they insisted that was the dress they wanted, I would separate them as much as

possible and keep the lighter tones near the center of interest.

*Question:* What about your film ratio?

*LaClaire:* About 1:2 or 1:3, depending on your light.

*Steele:* Thank you, Mr. LaClaire. That was perfect. School is out. This was one one day at Winona. Any day it might have been. Come to see us. (*The session adjourned at 6:05 p.m.*)

# General Print Exhibit...

## GENERAL PRINT EXHIBIT

The 1959 PP of A Print Exhibit was judged in Pomona, California, at the Los Angeles County Fair Photography Building on July 22 and 23. In the general exhibit, 3548 prints (Portrait—2529, Commercial—682 and Industrial—337), were submitted by 949 photographers, of which 1289 prints from 588 photographers were accepted for exhibition.

Of the 1289 accepted, 168 were industrial, 253 were commercial, and 868 portrait. Voting on the basis of 50 points, 30 points were required for acceptance and 40 were necessary for the Loan Collection. A total of 141 prints were selected for Loan from 101 photographers, of which 21 were industrial, 29 commercial and 85 portrait.

The Transparency Exhibit was judged using the same system. There were 406 entries from 219 makers, of which 137 were accepted from 96 photographers.

In the Masters Exhibit, a total of 40 points was required for acceptance; 180 prints were entered by 93 Masters. Of these, 123 from 79 Masters were accepted. Not included in this tabulation of the Masters are prints submitted by members of the Jury. Their entries were accepted on an invitational basis and accordingly are not entitled to Merits.

### THE JURY

Robert L. Ball, M.Photo., Corvallis, Ore., was Vice President in Charge of the exhibit; Floyd Roberts, Los Angeles, Calif., was Print Chairman; Burton Frasher, Jr., Pomona, Calif., was Assistant Print Chairman. The Portrait Division Chairman was Louis F. Garcia, M.Photo.; Commercial Division Chairman was Claude F. Palmer, M.Photo.; and Industrial Division Chairman was David B. Eisendath, Jr. Members of the jury were Max Munn Autrey, Robert L. Ball, E. W. Blew, Wesley E. Bowman, Charles Conkling, Alma Gray, Rudolph Guttosch, Jason Hailey, J. E. Hampson, Buzz Holland, Harold L. Johnson, Richard C. Kinstler, Maurice LaClaire, Harper Leiper, M. E. Magnuson, Bob Markow, Winton B. Medlar, Lawton E. Osborn, Danny Rouzer, Art Thelin, Edward Toplitt, J. Edmund Watson, Charles Weckler, and Chao-Chen Yang.

Following is a list of those receiving merits:

Note: First digit denotes the number of prints accepted; digit preceded by "L" denotes number of prints selected for Loan Collection; digit preceded by "M" denotes number of Merit Points earned; "T" indicates Transparency.

#### Alabama

Burton, Wilson C., Mobile: 1-M1  
Knox, J. F., Birmingham: 1-M1  
Roberts, Earl, Eufaula: 1-M1  
Thigpen, Roy M., Jr., Mobile: 3-M3

#### Arizona

Campbell, James W., Phoenix: 1-M1  
Dietrich, R. E., Phoenix: 3-M3  
Eger, Emil Jr., Yuma: 3-M3  
Koonce, Naurice, Tucson: 2-M2  
Manley, Ray, Tucson: 4-T2-L2-M7  
McLaughlin, Herb, Phoenix: 1-M1  
McLemore, William N., Jr., Phoenix: 1-M1  
Nomura, Hiro, Phoenix: 4-M4  
Prim, Mickey R., Tucson: 1-T1-M2  
Starr, Allan B., Phoenix: 2-M2  
Thomas, William J., Ajo: 2-L1-M3  
Wilcox, Bob, Phoenix: 3-T1-M4

#### Arkansas

Mitchell, Mrs. C. W., Fort Smith: 1-M1

#### California

Adams, Keith V., San Diego: 2-L1-M3  
Atkinson, Tom, Santa Monica: 3-M3  
Avers, Gordon, Ontario: 3-T1-M4  
Baldwin, Victor, Los Angeles: 4-L1-M5  
Bliven, Douglas, El Centro: 3-M3  
Bodnar, Jurij, San Mateo: 1-M1  
Brooks, Ted, El Segundo: 1-T1-M2  
Brown, Kenneth L., El Monte: 3-M3  
Brown, Jerome, Redwood City: 1-M1  
Bryant, Clinton, Ontario: 2-T2-M4  
Bull, Clarence S., Culver City: 3-M3  
Burkey, B. H., Long Beach: 1-M1  
Charis, Phillip, Pasadena: 4-M4  
Cook, Kenneth O., Salinas: 4-M4  
Coleman, Wm. W., Long Beach: 2-M2  
Coops, William, Maywood: 3-M3  
Cox, Bill L., South Gate: 2-M2  
Cuhel, Emil L., Los Angeles: 4-M4  
De Brouwer, Walter, Modesto: 1-M1  
deGennaro, George, Los Angeles: 3-T2-L2-M7  
Del Carlo, Arnold S., San Jose: 2-M2  
Dickey, Edward, San Francisco: 1-T2-M3  
Duggan, Leveret G., San Francisco: 3-T2-M5  
Eastbrook, Wm. R., Van Nuys: 2-T1-L1-M4  
English, Fred S., Redwood City: 2-M2  
Erb, Don, Los Angeles: 1-L1-M2  
Evans, Barry, Berkeley: 1-M1  
Faulkner, Don, San Francisco: 4-L1-M5  
Ferkether, W. P., Bishop: 1-M1  
Fisher, William, Inglewood: 1-M1  
Foster, Bob, Los Angeles: 3-T1-M4  
Ganslen, William D., San Francisco: 2-T1-M3  
Gault, Walter W., San Diego: 2-M2  
Geers, Raymond T., Bakersfield: 1-M1  
Gillman, Roy L., Indio: 1-M1  
Greene, Al, Los Angeles: 3-M3  
Gruman, Jerry R., San Mateo: 1-M1  
Gurney, Ted, Walnut Creek: 3-M3  
Ham, Gordon, Modesto: 2-M2  
Harleen, Carl, San Francisco: 4-L1-M5  
Hodgeson, Dennis, San Francisco: 4-M4  
Howell, John, Merced: 3-M3  
Hutchinson, John, West Covina: 2-T1-M3  
Ito, Richard, Los Angeles: 3-T1-M4  
Jowise, Peter, Emeryville: 3-T2-L3-M7  
Kierstead, Henry S., San Diego: 1-M1  
Kingham, Wm. Elmer, Redlands: 2-M2  
Knollenberg, Kenneth, San Francisco: 4-L1-M5  
Lidjak, Donald S., Los Angeles: 4-L2-M6  
Lippert, Grant R., Van Nuys: 2-M2  
McCartv, Curry V., Oxnard: 1-M1  
Mack, Douglas, San Francisco: 1-M1  
Mahoney, J. Carroll, Los Altos: 4-L1-M5  
Matchette, George H., Redwood City: 2-T2-M4  
Maughan, K. Gordon, Pasadena: 1-M1  
Miller, Hubert, Stockton: 4-L2-M6  
Miller, Lawrence V., Santa Barbara: 1-M1  
Moss, Elmer, San Francisco: T2-M2  
Miyatake, Toyo, Los Angeles: 1-M1  
Moulin, Tom, San Francisco: 3-T2-L1-M6  
Murrell, Victor, A. G., Lynwood: 1-M1  
Pace, Robert, Pasadena: 1-M1  
Perry, George, Richmond: 2-M2  
Rayle, Jim E., Pasadena: 2-L1-M3  
Reis, Robert, San Diego: 1-L1-M2  
Reeves, Kenneth R., Oakland: 1-T1-M2  
Rex, George M., Pasadena: 3-M3  
Ricca, Antonio, Escondido: 1-M1  
Richards, Alberta Sune, Whittier: 1-M1  
Roberts, Arthur W., Los Angeles: 1-M1  
Roberts, Floyd, Los Angeles: 2-L1-M3  
Rorex, Jim, Bakersfield: 1-M1

Ruzgerian, Kourken, Pasadena: 4-L3-M6  
Sermak, Cas, San Bernardino: 1-M1  
Sirlin, Ted, Sacramento: 3-M3  
Skeahan, William, Oakland: 1-M1  
Skipsey, Eric, Los Angeles: 4-L1-M5  
Small, Donald R., Bakersfield: 1-M1  
Smith, Robert G., Hollywood: 1-M1  
Smith, Roy V., Hayward: 1-M1  
Sobotker, Hal D., Jr., Pasadena: 1-M1  
Sojka, Frank, San Francisco: 1-M1  
Staples, R. S., Chico: 2-M2  
Stevens, Jack, San Diego: 4-T1-L1-M6  
Stewart, James A., Los Angeles: T1-M1  
Thanos, George, San Francisco: 4-L1-M5  
Tidyman, W. Fred Jr., Fresno: 1-M1  
Tong, Donald S., San Francisco: 3-L1-M4  
Toren, Miriam S., San Francisco: 3-M3  
Toren, Robert, San Francisco: 4-M4  
Trehearne, James A., Jr., Lancaster: 1-M1  
VanBuskirk, B. Audre, Chico: 1-M1  
Victor, Edward S., Los Angeles: 2-M2  
Walker, Robert, Bell: 1-M1  
Watson, Robert E., Los Angeles: 1-M1  
Welch, William, Santa Barbara: 3-L1-M4  
Weissinger, Robert A., San Diego: 2-L1-M5  
White, George E., Los Angeles: 2-M2  
Wichers, H. W., Palo Alto: 3-L2-M5  
Williams, Rene, Los Angeles: T1-M1  
Winfield, Ted, San Diego: 2-M2  
Woodfield, Wm. Read, Los Angeles: 1-M1

#### Colorado

DeCroce, Edward A., Denver: 2-M2  
Gould, Hal, Denver: 3-M3  
Jafay, Kurt F. G., Denver: 3-L3-M5  
Lucas, Lerwell, Denver: 2-T1-M3  
Maxwell, John C., Englewood: 4-M4  
Smyth, Bill, Englewood: 3-M3  
Vasicek, Richard E., Longmont: 1-M1

#### Connecticut

Burian, Robert, Hartford: 2-M2  
Goddard, Stanton H., Wallingford: 2-M2  
Haley, John F., Hartford: 2-M2  
Newman, Irving J., Greenwich: 2-T1-M3  
Newman, Juliet, Greenwich: 4-M4  
Shafer, Paul R., Hartford: 1-M1  
Weston, Vincent, Bridgeport: 3-L1-M4

#### District of Columbia

Davis, Frank J., Washington: 3-T1-M4  
Francis, Jon, Washington: T1-M1  
Tucker, Bennett S., Washington: 2-L1-M3

#### Florida

Becker, E. Allen, Miami Beach: 4-M4  
DeOca, C. M. M., Winter Haven: 4-T1-L2-M7  
Ellsworth, Lewis H., Tampa: 1-T1-M2  
Feldman, Marvin, Miami Beach: 1-M1  
Graham, Philip H., St. Petersburg: 3-M3  
Herrig, Duane M., Tampa: 2-M2  
Hinman, Richard E., Miami: 1-T1-M2  
Houser, Carl L., Jr., Miami: 1-M1  
Millsbaugh, Dave E., Miami: 2-M2  
Schwarm, Don M., Fort Lauderdale: 3-T2-L1-M6  
Sheldon, Michael T., Fort Lauderdale: 2-T2-M4  
Thomas, Ken, Tampa: 1-M1  
Wick, Charles J. II, Delray Beach: T1-M1

#### Georgia

Eason, Deborah, Atlanta: 1-M1  
Flanders, Edgar P., Waycross: 1-T1-M2  
Fletcher, E. Truman, Marietta: 2-M2  
Lee, James E., Atlanta: 2-M2  
Little, C. Leroy, Tennesse: 1-M1  
Reeves, C. Glenn, Macon: 1-M1  
Tucker, Ivan P., Decatur: 1-M1  
Waller, Al, Atlanta: 1-M1

#### Hawaii

Johnson, Bob, Honolulu: 1-M1  
Smith, L., Hobeon, Honolulu: T1-M1

#### Idaho

Sandberg, Grace A., Blackfoot: 2-M2

#### Illinois

Allsup, Jack L., Decatur: 3-M3  
Beach, Harold S., Maywood: T2-M2  
Becker, David T., Geneseo: 1-M1  
Charewicz, David M., Chicago: 1-M1  
Clark, William E., Urbana: 4-L1-M5

- Edwards, W. H., Sycamore: 1-M1  
 Farris, William Dale, Urbana: 3-L1-M4  
 Gusek, William, Chicago: 1-M1  
 Hamel, Richard Leo, Chicago: T2-M2  
 Hansen, Charles, Chicago: 1-M1  
 Hedlund, Harry A., Chicago: 1-T1-M2  
 Hois, Edward R., Oak Lawn: 4-T1-M5  
 Hoyt, Harry R., Chicago: 1-M1  
 Jindra, James J., Chicago: 1-M1  
 Jones, Gib, Chicago: 2-T2-M4  
 Keller, Clarence E., Robinson: 1-M1  
 Lee, F. H., Chicago: 3-T2-L1-M6  
 Long, Charles L., Westchester: 1-M1  
 Lorenz, William L., Chicago: 1-M1  
 McIntosh, Robert W., Wilmette: 1-M1  
 Matthews, Joseph, Joliet: 4-L1-M5  
 Mlodinoff, Phil, Chicago: 1-M1  
 Morton, Wm., Litchfield: 1-M1  
 Mull, L. Davant, Quincy: 2-M2  
 Paeltz, Edward H., Alton: 1-M1  
 Platon, Nicholas S., Chicago: 1-T1-M2  
 Schmidt, Martin J., Chicago: 2-T1-M3  
 Schultz, William D., Moline: 1-M1  
 Scilingo, Michael J., Cicero: 2-T1-M3  
 Sowa, Gene J., Chicago: T2-M2  
 Torrence, Richard Lee, Aurora: 2-M2  
 Wade, Bill, Jacksonville: 4-M4  
 Webb, Alfred A., Chicago: 1-M1  
 White, William J., Aurora: 1-M1  
 Winke, John H., Joliet: 1-M1  
 Wolff, W. M., Broadview: 1-T2-M3  
 Wolk, Willard, Chicago: 3-M3  
 Zehr, Wilmer D., Urbana: 1-M1  
 Zortea, Joseph, Chicago: T2-M2
- Indiana**  
 Doane, J. Waring, Mt. Vernon: 1-M1  
 Kumpf, William G., Hammond: 2-M2  
 Lenwell, Bob, Terre Haute: 1-M1  
 Petty, Tom, New Castle: 2-M2  
 Pyle, Ralph, Jr., Richmond: 2-M2  
 Rothschild, Victor, Gary: 1-M1  
 Stedman, Dale L., Fort Wayne: 2-T2-L1-M5
- Iowa**  
 Amborn, John E., Fort Madison: 4-M4  
 Bamford, Helen, Muscatine: 3-M3  
 Berry, W. Dayle, Sioux City: 2-M2  
 Buckroyd, James R., Fort Dodge: 2-M2  
 Buntrock, Kermit L., Storm Lake: 2-M2  
 Duncan, Gerald L., Cedar Rapids: 4-M4  
 Dyllal, Charles, Mt. Pleasant: 2-M2  
 Fuller, Wm. J., Jr., Fort Dodge: 1-M1  
 Gredell, Leo W., Keokuk: 3-M3  
 Huxford, Kenneth R., Marshalltown: 4-M4  
 Isaacson, Kay, Algona: 4-L4-M6  
 Justice, Gladys, Iowa City: 1-M1  
 Logeland, Fritz, Harlan: 4-M4  
 Lohnes, Donald J., Waterloo: 2-M2  
 Loth, Lawrence, Clinton: 4-L1-M5  
 Martin, Robert E., Red Oak: 1-M1  
 Reynolds, Roy, Clinton: 1-M1  
 Salie, Duane L., Storm Lake: 1-M1  
 Salsbery, Phil, Cherokee: 1-M1  
 Thorson, Jacob A., Cedar Rapids: 3-M3  
 Van Swearingen, Gerret, Clinton: 2-L1-M5  
 Wangness, Willis, Decorah: 3-L1-M4
- Kansas**  
 Crooks, Leon, Parsons: 1-M1  
 Curtis, Jack, Garden City: 1-M1  
 Fogler, Frank Atchinson: 4-M4  
 Friesen, LaVerne, Buhler: 2-T2-M4  
 Mertz, Suzanne, Pittsburg: 3-M3  
 Nickum, Roy H., Kansas City: 3-L1-M4  
 Raymer, Johnnie L., Topeka: 2-M2  
 Schmidt, Delmar J., Topeka: 1-M1  
 Valenzuela, Rudy, Garden City: 2-L1-M3  
 Widsteen, Tinka, Topeka: 1-M1  
 Williams, Dale Richard: Topeka: 2-M2
- Kentucky**  
 Caufield, Lin, Louisville: 3-M3  
 Jones, David E., Louisville: 3-M3  
 Keen, James N., Louisville: 1-M1  
 McKay, Patrick J., Maysville: 1-M1
- Louisiana**  
 de Gravelles, Nobby, Thibodaux: 2-M2  
 de Russy, Myles, New Orleans: 4-L1-M5  
 Drummond, Tom M., Jr., Shreveport: 2-M2  
 Miguez, Ory J., Franklin: 1-M1  
 Miller, Frank Lotz, New Orleans: 2-M2  
 Quave, Jim, Houma: 1-M1  
 Salles, Fran, Baton Rouge: 1-M1  
 Salles, Emile, Jr., Baton Rouge: T2-M2  
 Utr, Raymond, Eugene, Shreveport: 1-M1
- Maine**  
 Clark, James E., Augusta: 1-M1  
 Crowell, Ralph H., Scarborough: 1-T1-M2  
 Daniels, Billie, Norway: 1-M1  
 Daniels, Lewis F., Norway: 4-M4  
 Hutcheon, Wilda, Caribou: 1-M1  
 Woodman, Leroy A., Farmington: 2-M2
- Maryland**  
 Amos, James L., Baltimore: 3-M3  
 Brooks, Duncan, Bethesda: 2-M2  
 Burnett, Harry L., Jr., Riverdale: 1-M1  
 Kepper, John Charles, Baltimore: 4-M4
- Massachusetts**  
 Blakesly, Almon, Wilmington: 2-T2-L2-M6  
 Clough, Erwin M., Malden: 2-M2
- Garufa, Cal, Boston: 1-M1  
 Hobbs, John Harry, East Weymouth: 3-M3  
 Hobbs, Madeline, East Weymouth: 1-M1  
 Hookailo, Melvin F., Boston: T1-M1  
 Johnson, Arthur, Springfield: 1-M1  
 Levy, Leonard, Beverly: 3-M3  
 Lewis, Marley Ray, Worcester: 2-M2  
 Norton, Charles L., Wilmington: 2-T1-M3
- Michigan**  
 Atamian, Richard, Saginaw: 1-T1-M2  
 Baldwin, Montelle L., Flint: 1-M1  
 Brader, Douglas R., Saginaw: 2-M2  
 Carlson, Edgar, Dearborn: 1-M1  
 Conkright, Delbert Lee, Mt. Pleasant: 2-M2  
 Dey, M. Clifton, Ann Arbor: 3-M3  
 Farkas, Joseph, Dearborn: 1-M1  
 Goschnick, William, Port Huron: 1-M1  
 Johnson, Bervin A., Whitehall: 1-M1  
 Johnson, R. S., Dearborn: 3-M3  
 LaClare, David B., Grand Rapids: 4-L2-M6  
 Lyttle, Douglas, Kalamazoo: 2-M2  
 McHenry, E. R., Detroit: 3-M3  
 Moyer, Bud, Traverse City: 3-M3  
 Riegler, W. Leon, Kalamazoo: 4-M4  
 Robinson, Chester B., Kalamazoo: 2-M2  
 Sayles, Alice, Drayton Plains: 1-M1  
 Schumm, Edward H., Kalamazoo: 3-M3  
 Short, Jack R., Kalamazoo: 1-M1  
 Sturgis, Samuel P., Ann Arbor: 1-M1  
 White, Murray R., Grand Haven: 4-M4
- Minnesota**  
 Ali, Richard L., Winona: 4-M4  
 Anderson, Jack M., Stillwater: 4-L1-M5  
 Baasen, Jack L., Minneapolis: 2-M2  
 Baker, Kenneth S., Windom: 1-M1  
 Baxell, Hazel M., Minneapolis: 2-M2  
 Blumenfeld, Milton J., St. Paul: 1-M1  
 Brinkman, Milton A., North Hutchinson: 1-M1  
 Fritz, Carl A., St. Cloud: T1-M1  
 Hockett, J. R., Austin: 4-M4  
 Jacobsen, Douglas, Hopkins: 1-M1  
 Johnson, William A., Minneapolis: 1-M1  
 Judd, Marie, Austin: 3-M3  
 Keiser, Roger J., Hutchinson: 2-M2  
 Lorhammer, Norman, St. Peter: 3-M3  
 Lundgren, Roger D., Minneapolis: 4-L2-M6  
 Nelson, John A., Duluth: 2-M2  
 Phillipich, Leonard M., Eveleth: 1-M1  
 Pletsch, Bill, Minneapolis: 1-M1  
 Rickers, Donald E., Worthington: 1-M1  
 Rickers, Russell M., Worthington: 2-M2  
 Rust, Carleton E., St. Paul: 1-M1  
 Silker, Glen, Little Falls: 1-M1  
 Stassen, Don Tracy: 1-M1  
 Thiele, Duane George, Glencoe: 1-M1  
 Revoir, Phil, Redwing: T2-M2  
 Trudell, Clifford A., Edina: 1-M1
- Mississippi**  
 Rumpf, Harry, Greenwood: 2-M2  
 Sawyer, John E., Jr., Cleveland: 3-L1-M4
- Missouri**  
 Duffield, Rolan, Kansas City: T1-M1  
 Gray, Larry, St. Louis: 3-L1-M4  
 Guise, Albert, Clayton: 2-M2  
 Hours, Robert E., Clinton: 4-M4  
 Lueders, Paul, Cape Girardeau: 3-M3  
 Mabel, Max, St. Louis: 1-M1  
 Tichacek, George A., Alfton: 1-M1  
 Westrich, Robert J., St. Louis: 2-M2
- Montana**  
 Bloch, Adam P., Billings: 4-L1-M5  
 Lacy, M. E., Whitefish: 2-M2  
 Luce, Lawrence C., Billings: 1-M1  
 Schlechten, Chris, Bozeman: 4-L2-M6
- Nebraska**  
 Behrens, Norman H., Crete: 4-L1-M5  
 Behrens, Robert F., Crete: 4-M4  
 Downey, James Chas., Scottsbluff: 1-M1  
 Fuller, LaVerne R., Grand Island: 4-L1-M5  
 Sample, Richard J., Seward: 1-M1  
 Stroh, Rollie, Grand Island: 4-M4
- New Hampshire**  
 Sullivan, Francis J., Derry: 1-M1
- New Jersey**  
 Coda, Alfred, Englewood: 4-L1-M5  
 Haviland, Theodore, Ho-Ho-Kus: 2-M2  
 Nicastro, Peter A., Garfield: 4-T2-M5  
 Patisso, Frank, Clifton: 2-M2  
 Patisso, Nicholas, Clifton: 1-M1  
 Pitcher, Jean Du Bois, Ridgewood: 2-M2  
 Q. Mike, Edison: 2-M2  
 Russel, Ralph R., Mt. Holly: 1-M1  
 Sobin, Morton A., Hackensack: 1-M1  
 Turner, Orren Jack, Princeton: 1-M1  
 Zeltsman, Joseph, Morristown: 4-L2-M6
- New Mexico**  
 Bell, Bill, Albuquerque: 2-M2  
 Bell, Nill, Rose, Albuquerque: 2-M2  
 Grimes, C. D. Jr., Albuquerque: 3-T1-L1-M5  
 Hall, Robert W., Albuquerque: 2-M2  
 Hodges, Richard E., Albuquerque: 1-M1  
 Kent, Dick, Albuquerque: 2-M2  
 Laskar, Bill K., Albuquerque: 1-M1  
 Maxwell, J. C., Hobbs: 2-M2  
 Ravanelli, Albert, Albuquerque: 4-M4  
 Rorabaugh, Leo F., Tucumcari: 1-M1  
 Rose, Gerald L., Albuquerque: 1-M1
- New York**  
 Ambrose, Frank, Gloversville: 1-M1  
 Amursky, Ralph J., Rochester: 3-L1-M4  
 Anguti, Michael, New York: 4-M4  
 Archer, Herbert, Rochester: 4-L1-M3  
 Baker, Charles O., Rochester: 3-T2-L1-M6  
 Boden, Richard J., Rochester: 1-T2-M3  
 Bovee, Harold, Baldwinsville: 2-L1-M3  
 Brooks, John R., White Plains: 1-M1  
 Craig, Robert M., Hudson Falls: 4-M4  
 Cundall, James M., New York: 1-M1  
 Durling, Edward A., Hudson Falls: 3-M3  
 Durling, Richard, Hudson Falls: 4-L2-M6  
 Eckel, Pete, New York: 4-M4  
 Fialkoff, Harold, Albany: 4-M4  
 Fletcher, David L., Kingston: 3-M3  
 Fletcher, Geoffrey, Kingston: 1-M1  
 Freni, John, Poughkeepsie: 4-L2-M6  
 Frumkin, Samuel, Albany: 4-M4  
 Gazda, Stanley T., Binghamton: 1-M1  
 Geiger, Charles L., Jr., Syracuse: 3-M3  
 Haddad, Philip V., Suffern: 3-M3  
 Hastings, David C., Suffern: 3-M3  
 Holden, Raymond, Rochester: 1-T2-M3  
 Howick, Lee, Rochester: 2-T1-L1-M4  
 Hulse, Walter T., Middletown: 4-M4  
 Kondo, Theodore, Niagara Falls: 2-M2  
 Leichtner, Henry W., Rochester: 4-M4  
 Lindquist, Shirley, Jamestown: 2-M2  
 Miller, Norman A., Avon: 1-M1  
 Molitor, Joseph, Ossining: 3-T2-L1-M6  
 Montanus, Neil, Rochester: 4-T2-L3-M7  
 Muggleton, R. E., Auburn: 2-M2  
 Parker, L. J., Rochester: 4-T2-L1-M6  
 Peek, Herman, West Seneca: 3-L1-M4  
 Phillips, Robert F., Rochester: 4-L2-M6  
 Porreca, Ettore C., Buffalo: 2-M2  
 Rosenber, Leonard, Rochester: 3-T2-L1-M6  
 Samenko, Wm. Jr., New York: 4-M4  
 Sauro, Daniel, Syracuse: 4-M4  
 Sheehan, Timothy, New York: 3-L1-M4  
 Siegfried, Ina, Jamestown: 4-L1-M5  
 Simonson, Marvin W., Niagara Falls: 1-M1  
 Smith, Donald L., Rochester: 3-L1-M4  
 Widder, Eileen, Forest Hills: 4-T2-L3-M7  
 Wisniewski, Joseph Jr., Elmira: 4-M4  
 Wittenborg, John, New York: 4-L2-M6  
 Witkowski, William C., Tonawanda: 1-M1  
 Wooden, Wesley, Rochester: T1-M1  
 Zelones, Leep, Niagara Falls: 3-M3
- North Carolina**  
 Ball, W. Homer, Goldsboro: 1-M1  
 Bishop, Rose, Greensboro: 2-M2  
 Doss, Jesse L., Winston-Salem: 2-M2  
 Faulk, Oscar W., Monroe: 1-M1  
 Ferguson, Harley D., Gastonia: 4-M4  
 Hooks, Dorothy, Smithfield: 4-L2-M6  
 Hord, Tim, Charlotte: 4-L1-M5  
 Keyser, Hazen, Winston-Salem: 2-M2  
 Kraft, Charles, Mt. Olive: 3-M3  
 Smith, Gray F., Mocksville: 2-M2
- North Dakota**  
 Rudrud, Bower E., Bismarck: 3-M3
- Oklahoma**  
 Curtis, Ernie, Oklahoma City: 1-M1  
 Jacoby, Ray, Oklahoma City: 2-M2  
 Jurick, Don, Tulsa: 1-M1  
 Kendrick, Roy, Wewoka: 4-M4  
 Krouse, William, Fairview: 4-L1-M5  
 Lawson, Ivan, Ardmore: 1-M1  
 McCormack, Bob, Tulsa: 1-M1  
 Sikes, Carl, Chickasha: 1-M1  
 Taylor, Bob Cordell: 1-M1  
 Wellington, W. Dean, Ada: 1-M1  
 Yamagishi, Tacy Teizo, Oklahoma City: 2-L1-M3
- Ohio**  
 Armen, Richard, Mansfield: 1-M1  
 Cromer, Paul, Covington: 3-M3  
 Davis, Bill, Cleveland: 1-M1  
 Domino, Dorothy, Lakewood: 2-M2  
 Gargus, John J., Lorain: 3-M3  
 Goldberg, Howard M., Cincinnati: 1-L1-M2  
 Hartman, Fred C., Jr., Wadsworth: 1-M1  
 Hoffman, Glenn D., Crestline: 1-M1  
 Kolbe, Charles, Toledo: 1-M1  
 Kuzma, John Michael, Martins Ferry: 1-M1  
 Lipp, Guy E., Mt. Vernon: 1-M1  
 Long, Herral, Toledo: 3-M3  
 Lupidi, Albert D., Columbus: T1-M1  
 Opsitnik, Gene, Struthers: 2-M2  
 Packo, Robert, Toledo: 4-T2-L1-M6  
 Payne, Robert, Columbus: 1-M1  
 Pluto, Harry M., Canton: 1-L1-M2  
 Sess, Raymond, Oak Harbor: T1-M1  
 Smucker, John E., Mansfield: 3-M3  
 Stock, George, Martins Ferry: 3-T1-M4  
 Vaughn, M. Edwin, Lancaster: 4-L2-M6  
 Wald, Charles F., Cincinnati: 2-M2
- Oregon**  
 Brown, Forest C., North Bend: 1-M1  
 Conkling, Leonard, Portland: 2-T1-M3  
 Conkling, Raymond, Portland: 1-M1  
 Gilbert, Gladys, Portland: 4-L1-M5  
 Hurst, Claude, Redmond: 2-M2  
 Landis, Carl S., Medford: 2-M2  
 McKim, James W., McMinnville: 1-M1  
 Morrison, Edris, Portland: 1-M1

Smith, Dwaine E., Medford: 1-M1  
**Pennsylvania**  
 Banks, Duane G., Monroeville: 4-M4  
 Bolba, Albert, Johnstown: 2-M2  
 Buser, William E., Lebanon: 1-M1  
 Chapman, Vincent M., Pittsburgh: 3-M3  
 Chunch, Al, Pittsburgh: 2-M2  
 Deer, Rev. V., Pittsburgh: 1-M1  
 Donor, Elmer M., Erie: 1-M1  
 Fedison, Michael, Greensburg: 2-M2  
 Frame, Richard, Philadelphia: 2-T1-L1-M4  
 Free, Walter B., Philadelphia: 4-T1-M5  
 Hanson, Bror H., Pittsburgh: 2-T2-M5  
 Hartig, Karl, Havertown: 4-L4-M6  
 Herd, Robert P., Greensburg: 1-M1  
 Kelley, John B., Bradford: 4-M4  
 Levy, Larry, Stroudsburg: 1-T1-M1  
 Morgan, Earl P., Monroeville: 1-L1-M2  
 Opler, Robert, Philadelphia: 1-T1-M2  
 Preissler, Francis J., Pittsburgh: 3-M3  
 Rahija, Michael N., North East: 3-M3  
 Sabanosh, Nicholas, Clearfield: 1-M1  
 Shumaker, A. L., Girard: 3-M3  
 Snyder, Herbert A., Easton: 1-M1  
 Stanley, Vincent, Hazleton: 1-M1  
 Trimbur, Theodore A., Pittsburgh: 1-M1  
 Troup, John H., Jr., Harrisburg: 2-M2  
 Uhler, R. William, Lebanon: 2-T1-M3  
 Williams, Lawrence S., Upper Darby: 4-M4  
**Rhode Island**  
 Champagne, George, Pawtucket: 1-T1-M2  
**South Carolina**  
 Taylor, Donald O., Columbia: 2-M2  
**South Dakota**  
 Berg, James, Sioux Falls: 4-L2-M6  
 Graf, August, Aberdeen: 4-L1-M5  
 Tollinger, Thelma, Canton: 4-L3-M6  
**Tennessee**  
 Cianciolo, Joseph A., Memphis: 4-L1-M5  
 Crutcher, Cameron B., Gallatin: 1-M1  
 Dooley, Devon Ernest, Jackson: 2-M2  
 Finch, Bryce, Nashville: 1-T1-M1  
 Jamieson, Jimmie, Memphis: 1-M1  
 Kingdon, W. T., Memphis: 2-T2-M4  
 McKinley, H. Evan, Morristown: 2-M2  
 Orman, Claude N., Columbia: 4-M4  
 Price, Nadia E., Memphis: 1-M1  
 Roe, John E., Pulaski: 2-M2  
 Stark, E. M., Gallatin: 1-M1  
 Tarver, J. P., Tullahoma: 3-M3  
 Webb, William C., Memphis: 2-T2-M2  
 Webb, Joy, Memphis: 2-M2  
**Texas**  
 Blackstock, John L., Stamford: 1-M1  
 Boatner, Fred L., Longview: 1-M1  
 Boatner, Nila, Longview: 2-M2

Booth, Vernon L., Harlingen: 1-M1  
 Clay, Odin, Houston: 3-L2-M5  
 Crowe, J. P., Austin: 2-M2  
 Deaver, James, Houston: 3-L1-M4  
 Dixon, Robert D., Houston: 1-T1-M2  
 Doud, Herbert, Victoria: 3-M3  
 Dunlap, Frank, Midland: 2-M2  
 Gadeke, Vasil, El Campo: 1-M1  
 Gold, Sammy, Corpus Christi: 3-M3  
 Hemmi, Robert A., Dallas: 3-T1-M4  
 Kerr, Max, Edinburg: 3-M3  
 Lande, Les, San Antonio: 1-M1  
 Langley, William, Dallas: 3-T2-M5  
 Lear, Vivian, Houston: 1-T1-M2  
 Little, Eddie, Winters: 1-M1  
 Messina, John, Dallas: 3-L1-M4  
 Oistad, Jay, Tyler: 4-T1-M5  
 Poovey, Odell, Henderson: 3-L2-M5  
 Rimel, R. F., Jr., Houston: 3-L1-M4  
 Rubin, Randolph D., Midland: 2-M2  
 Sanders, Willis W., Houston: 1-M1  
 Sanddal, Ross, Houston: 1-T2-M3  
 Supphen, Gene, College Station: 2-M2  
 Swinney, Tom B., Tyler: 4-M4  
 Weaks, Bill S., Plainview: 2-M2  
 Williams, Gilmore, Austin: 2-M2  
 Winkelman, William S., Brenham: 1-M1  
 Williams, Hella May, Midland: 1-M1

**Utah**  
 Beal, William, Salt Lake City: 3-M3  
 Hobson, Stan G., Logan: 1-M1  
 Monson, Harold K., Provo: 1-M1  
 Pugmire, Donald M., Provo: 1-M1  
 Van Wageningen, Glen E., Provo: 1-M1

**Virginia**  
 Bray, Ralph V., Lexington: 1-M1  
 Frye, Charles W., Harrisonburg: 3-M3  
 Frye, Polly, Harrisonburg: 1-M1  
 Garber, Marshall A., Richmond: 2-M2  
 Turner, Gerald R., Alexandria: 4-M4  
 Wingold, Dixie Lee, Galax: 2-M2

**Washington**  
 Bontrop, La Greta, Walla Walla: 3-M3  
 Brown, Merle, Spokane: 1-M1  
 Brown, Robert, Bellingham: 1-M1  
 Cage, Jane, Spokane: 2-L1-M3  
 Clift, Russ, Bellingham: 2-M2  
 Diven, Chuck, Seattle: 1-M1  
 Dobbins, Kenny M., Kennewick: 3-M3  
 Engman, Kenneth, Everett: 2-M2  
 Haffer, Virna, Tacoma: 1-M1  
 Henle, Charles, Spokane: 2-M2  
 Johnson, Robley L., Richland: 2-M2  
 Jones, William D., Aberdeen: 2-M2  
 Kaminske, Harold R., Seattle: 2-M2  
 Keith, John W., Spokane: 3-T2-L3-M7

Logan, John W., Longview: 1-M1  
 Masotto, Thomas, Kent: 3-L1-M4  
 Richter, Walter W., Spokane: 1-M1  
 Schreck, Dale W., Pasco: 3-T1-M4  
 Siceloff, William, Pullman: 1-M1  
 Wilber, Frank A., Auburn: 1-M1  
 Williams, Norman, Bellingham: 2-M2  
**West Virginia**  
 Buffington, Ulysses, Clarksburg: 2-M2  
 Fries, Clifford L., Martinsburg: 1-M1  
 Kopp, Florine Hoke, Huntington: 1-M1  
 Mauritz, Frank, Oak Hill: 3-M3  
 Woody, J. David, Welch: 1-M1  
 Woody, Patricia E., Welch: 3-M3

**Wisconsin**  
 Blouin, Guy, Kaukauna: 4-L1-M5  
 Boyajian, Kaiser, Cudahy: 4-M4  
 Bynog, Virgil Walsh, Rice Lake: 4-M4  
 Cleveland, A. H., Menomonie Falls: 3-M3  
 Demos, Nick, Cudahy: 2-M2  
 Hansen, Clarence, West Allis: 3-M3  
 Heintz, Edwin, South Milwaukee: 4-M4  
 Jacobs, Richard, Kaukauna: 4-M4  
 Johnson, Kenneth, Fond du Lac: 1-T1-M1  
 Keel, John H., Marshfield: 4-T1-L1-M6  
 Kinney, Milton C., Kaukauna: 4-M4  
 Kubly, Marshall Duane, Janesville: 3-M3  
 LaMere, La Vern, Marshfield: 2-M2  
 Parks, Alton B., Manitowoc: 3-M3  
 Robinson, Keith Louis, Milwaukee: 4-M4  
 Rueckl, Milton O., Appleton: 3-M3  
 Scheibe, Marge, Burlington: 3-M3  
 Totushek, Mildred, South Milwaukee: 4-M4  
 Trapp, Andrew H., Clintonville: 2-M2  
 Virtue, Arthur T., Platteville: 2-M2  
 Weber, John E., Milwaukee: 1-M1  
 Wellman, Robert A., Kenosha: 1-M1  
 Wollin, William, Madison: 2-T1-M3

**Wyoming**  
 Littler, Ray M., Torrington: 1-T1-M2  
 Peterson, Lloyd, Torrington: 1-T1-M2

**Canada**  
 Brisson, Robert A., St. Catharines, Ont.: 1-M1  
 Burlin, Mauritz, New Westminster, B. C.: 3-M3  
 Byrne, James Paul, Kingston, Ont.: 1-M1  
 Clowes, Don C., New Westminster, B. C.: 1-M1  
 Courtemanche, J. A. Robert, Magog, Que.: 3-M3  
 Davidson, Jack, Winnipeg, Man.: 2-M2  
 Galloway, J. Wallace, Edmonton, Ala.: 3-L1-M4  
 Killiany, Maria, Montreal, Que.: 3-M3  
 Newton, Neil, Toronto, Ont.: 3-M3  
 Paisley, Douglas Arvin, Sarnia, Ont.: 2-M3  
 Phelan, Charles D., Kingston, Ont.: 2-M2  
 Rossmo, Nicholas, Burnaby, B. C.: 1-M1  
 Sauer, June, Montreal, Que.: 1-M1  
 Skupio, A., Vancouver, B. C.: 2-M2  
 Zetner, Ray, Windsor, Ont.: 2-M2

# Masters Exhibit...

Note: Digit after each name indicates number of prints accepted.

**Arkansas**  
 Saunders, Earl L. Jr., Little Rock: 2  
 Shrader, G. J., Little Rock: 2

**California**  
 Frasher, Burton Jr., Pomona: 1  
 Platz, John, Los Angeles: 2  
 Romaine, Emilie, San Francisco: 2  
 Romaine, Karl, San Francisco: 1  
 Seawell, Wallace, Hollywood: 2

**Colorado**  
 Diers, Don C., Lamar: 1

**Delaware**  
 Stewart, Willard, Wilmington: 2

**Florida**  
 Fager, Dan J., Tampa: 1  
 Klintworth, C. Verne, Tampa: 1  
 Phillips, Richard, Lakeland: 2

**Georgia**  
 Harden, C. Cliff, Decatur: 1

**Illinois**  
 Fox, Edward, Chicago: 2  
 Howell, John, Winnetka: 1  
 Merry, J. L., Evanston: 2  
 Montgomery, Richard D., Harvard: 1  
 Nopar, Richard S., Chicago: 2  
 Wilke, William W. C., Jr., Chicago: 1  
 Wolk, William J., Chicago: 1

**Indiana**  
 Krider, Wm. M., Lawrenceburg: 2  
 Starks, Charles C., Bloomington: 1

**Iowa**  
 Apgar, Patton, Marshalltown: 2  
 Hruska, Louis C., Dubuque: 1

Kray, Frank K., Dubuque: 2

**Kansas**  
 Thompson, Jean, Topeka: 1  
 Wichers, A. D., Topeka: 2

**Kentucky**  
 Davis, H. Harold, Louisville: 1

**Louisiana**  
 Moore, Phyllis, New Orleans: 2  
 Webb, Lee, Houma: 1

**Michigan**  
 Briggs, Eva, Pleasant Ridge: 1  
 Clinedinst, Barnett M., Jr., Detroit: 1  
 Stovall, Maurine, Alma: 2  
 Tourcotte, Courneye, Muskegon: 1  
 Werner, Palmer, Detroit: 2

**Minnesota**  
 Knudsen, Torg, Montevideo: 2  
 Kroeger, Everett, St. Paul: 1

**Missouri**  
 Brown, Joe S., St. Louis: 1  
 Stern, Leo, Kansas City: 2

**Nebraska**  
 Downey, Charles D., Scottsbluff: 2  
 Morsman, Wm. P., Falls City: 2

**New Hampshire**  
 Sanford, Eric, Manchester: 2

**New Jersey**  
 Van Dyke, Fred, Bergenfield: 2

**New York**  
 Ambrester, George, Rochester: 1  
 Botsford, Gene, Rochester: 1  
 Duncan, Linn, Rochester: 1  
 Fassbender, Adolf, New York: 2  
 Premo, Clarence E., Potsdam: 2  
 Warner, Rick, Rochester: 2

**North Carolina**  
 Simons, Ed T., Winston-Salem: 1

**Oklahoma**  
 White, James F., Seminole: 2

**Ohio**  
 Beadling, Roy, Zanesville: 1  
 Bell, Michael L., Toledo: 2  
 Brand, Lawrence P., Cincinnati: 2  
 Davidson, John M., Bryan: 2  
 Hoxie, George R., Oxford: 1  
 Kreuter, Clifford O., Cincinnati: 1  
 March, Paul H., Defiance: 1

**Pennsylvania**  
 Parson, Robert E., Erie: 2  
 Rhodes, Emil, Philadelphia: 1

**Tennessee**  
 Carrier, William W. Jr., Memphis: 2  
 Dickerson, D. E., Shelbyville: 1  
 Hood, Steve E., Nashville: 1

**Texas**  
 Carson, Kenneth, Dallas: 2  
 Johnston, Harris G., Houston: 1  
 Marvins, Kaye, Houston: 2  
 Mears, Dewey, Austin: 2  
 Meisel, Ulric, Dallas: 1

**Virginia**  
 Moore, Van, Richmond: 2  
 Powell, Wendell, Richmond: 1  
 Zink, Margo Kent, Staunton: 2

**Washington**  
 Parsons, Wayne, Wenatchee: 2

**Wisconsin**  
 Durante, Michael D., Milwaukee: 2  
 Price, Aida, Milwaukee: 1

**Canada**  
 McGlenister, Albert Geo., St. Catharines, Ont.: 2

# SCHOOL FOR MANAGEMENT



Classes were held in the arena of the new auditorium of the Winona School of Photography.



Left: Group discussion was encouraged by Instructors E. S. Purrington, Cr.Photo., Ford Motor Co.; R. C. Kinstler, Cr.Photo., Procter & Gamble Co.; Allie C. Peed, Kodak. Right: Students Wallace F. Boyes, Sandia Corp.; Donald Lagasse, Sylvania Electric Prod. Co.; Tom Rabstenek, IBM; Roddy Boger, U.S.N.A.D.; Ray, Steudtner, U.S.A.F.



DEPARTMENT heads, chief photographers, supervisors and staff photographers representing more than 30 manufacturers, Government agencies and the press, spent five full days and evenings of seminar-type instruction during the second annual Industrial Photographic Management course last August at the Winona School.

Classes were presented by the PP of A Industrial Division in the arena of the new Winona auditorium, a building built especially for the teaching of photography.

Toledo (Ohio) Blade Staff Pho-



Left: It wasn't all classroom discussion — B. R. Ellis, Lago Oil & Transport (Aruba); Edward R. Larkin, U. S. Army, Pentagon; Wm. A. Lieberman, Signal Missile Support Agency; E. J. Casazza, IBM; Wm. R. Terrell, Service Pipe Line Co.; George Evans, Fort Detrick (Md.). Below: School Director Howard Weber, M.Photo., talking with a student. In background are Lieberman and Larkin.



Sandia's Boyes expresses a viewpoint. Left is Edward J. Casazza. Lower right is Tom Lagasse.

tographer Herrall Long photographed fellow students with his 35mm camera as they discussed various subjects, including photographic department organization, management psychology, production control, record systems and the encouragement of full utilization of the photographic department.

Dates for the 1960 Industrial Management course are August 21-26. ▲



"Toledo Blade" Staff Photographer Herrall Long recorded studies of Earl Stanton, Bell Aircraft Corp. (Instructor); R. C. Kinstler, Procter & Gamble; Stanley Weisenfeld, Corning Glass Works; Harold Martin, "Photo Methods for Industry" magazine; and E. S. Purrington, Ford Motor.

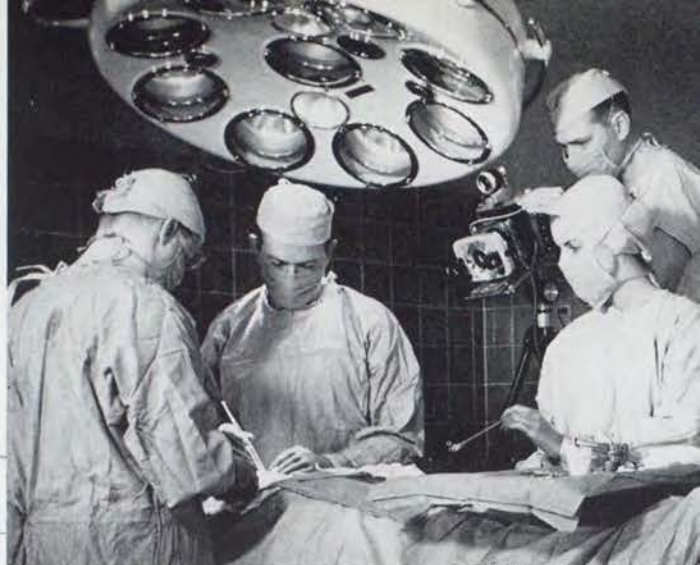




R. Albertin

Surgical procedure being recorded as reference for surgical drawings. Note the use of electronic ring light mounted on camera lens. For use on emergency basis, small camera and two electronic flashes are mounted in overhead light.

Macro photograph of a one cm human fetus immersed in water. Careful placement of lights to bring out contour and texture was carried out without reflective problems. Details too small to see with naked eye are obvious in photograph.



William A. Kindell

## PHOTOGRAPHY AS A TOOL—PART VI

# Photography in Medicine

by Robert H. Albertin

THE ROLE of photography as a tool in medicine is becoming increasingly important in the clinical as well as the research levels. The comparatively rapid acceptance of this "precocious art" is due to many factors.

Foremost among these is the media's extreme flexibility and adaptability to various situations combined with the technical excellence of materials and equipment.

Secondly, the population growth, particularly in the urban areas, has brought about an increase in size and number of medical educational facilities and correspondingly an increase in the demand for medico-visual material.

With this manifest increased demand for more medical photography, it is not only conceivable but actually very probable that photographers not specifically trained in medical photography can expect to be called upon to photograph subjects totally unfamiliar to them in environments possibly equally strange.

### The Role of Photography

Open any medical journal or medical drug manufacturer's publication today and the volume of photography involving medical subjects becomes immediately evident. Still, the most important aspect of medical photography centers in the educational institutions and "teaching" hospitals. Here it plays its most important role.

To illustrate a point, take the medical illustrator who has the problem of illustrating a complex surgical procedure. Not many years ago the artist would have entered

the operating room with sketch pad and pencils. Following the operation these sketches would have been used as a basis for the finished drawings. Obviously a degree of error coupled with a certain amount of artistic license would inevitably result in a drawing with certain unavoidable inaccuracies.

Until recently the camera was considered by many medical artists as more or less "an instrument of the Devil." I am happy to say that this situation no longer exists. A number of artists, myself among them, now carry the camera into surgery rather than the sketch pad. Photographs taken step-by-step as the operation progresses are referred to in the artist's studio to facilitate proportionally accurate and realistic illustrations.

When recording for reference material, I make as many as 20 to 50 photographs of a procedure. Obviously the surgeon cannot be bothered with cleaning up the field or redraping for each exposure. The photograph serves only as a reference for form, texture and proportion.

### Care and Preparation

When photographs of a procedure are made with the intention of using the finished product as such, the utmost care and preparation of the area to be filmed are important. All too often I have seen examples of surgical photographs that were technically good but which fell short of their goal because of multi-colored or blood-spattered drapes, distracting reflections, and any number of other basic faults. Specially-dyed drapes reserved only for cases to be photographed should be used. To eliminate wrinkles during sterilization and storage, the cloth may be rolled rather than folded.

Photography in the surgical theatre is probably one of the most difficult and exacting aspects of medical photography. The fact that a human life is involved and that the photographer shares some of the responsibility of safeguarding that life cannot be overemphasized. Proper selec-



Robert H. Albertin, M.A., formerly Associate Director, Div. of Medical Illustration, Ohio State University, is presently Lecturer in Medical Illustration, Marquette University School of Medicine, Milwaukee. He is Consulting Medical Artist, Wood Veteran's Administration Hospital and Instructor, Layton School of Art. Several of Mr. Albertin's scientific papers and numerous illustrations have been published. He is a member of the Association of Medical Illustrators.

tion and care of equipment coupled with a knowledge of the do's and don'ts of the operating room will go far towards simplifying the task.

### Equipment and Illumination

As a choice of equipment I have a definite preference for the press-type camera such as the Linhof 4x5 for still photographs and the 16mm Arriflex for motion picture work. Both of these cameras offer many advantages over other models but excellent results may be obtained with similar types of cameras.

For illumination in still photography I prefer an electronic ring light for at least four reasons. First, it is fast enough to stop any motion and bright enough to permit an aperture of  $f/32$  at a distance of three feet. Secondly, it is safe. There is no chance of a glass-shattering explosion as might occur with flashbulbs. The chances of an open spark are minimized. Thirdly, the field is evenly illuminated and is shadow-free. Fourth, the light source is small and compact and does not have to be hand-held or manipulated.

### Tripod Dolly

Since time is of the essence I use a Bolex tripod dolly to facilitate moving into and out of the camera position. A small metal chain attached to the dolly with one end in contact with the floor conducts static electricity safely.

For cinematography I prefer a minimum of two variable beam flood lights. A boom light is particularly advantageous for key lighting because it can be manipulated for close proximity and yet not take valuable space near the table.

Just as the surgeon and his assistants must don scrub clothes, cap and mask, so must the photographer who enters the O.R. (Some nursing supervisors require that photo equipment be dusted with a sponge wet with 70% alcohol.) Another precaution now mandatory in most hospitals is the application of conductive material to the soles of shoes. This greatly reduces the possibility of static electricity passing from some one close by the operating table to the patient resulting in a tragic accident.

### Electrical Precautions

Electronic flash equipment should be flash-proof as should all connections supplying electrical current to flood lights. Most operating rooms have spark-proof electrical outlets in the walls that require special extension cords. When

using this type of cord connect all equipment to the cord *before* plugging it into the wall socket. When removing lighting equipment, always pull this plug from the wall outlet first before disconnecting lighting equipment. Failure to follow this procedure could cause an explosion. Most gases used in anesthesia are heavier than air and consequently sink to the lowest level of the room.

Although electronic flash equipment is comparatively safe, it is recommended that equipment of this sort should be kept at least six feet from the anesthetist's gas machine especially if explosive gases are used. While moving about in the operating room, care should be exercised to avoid touching (contaminating) any of the personnel attired in sterile gowns or any of the sterile instruments.

### Thorough Understanding

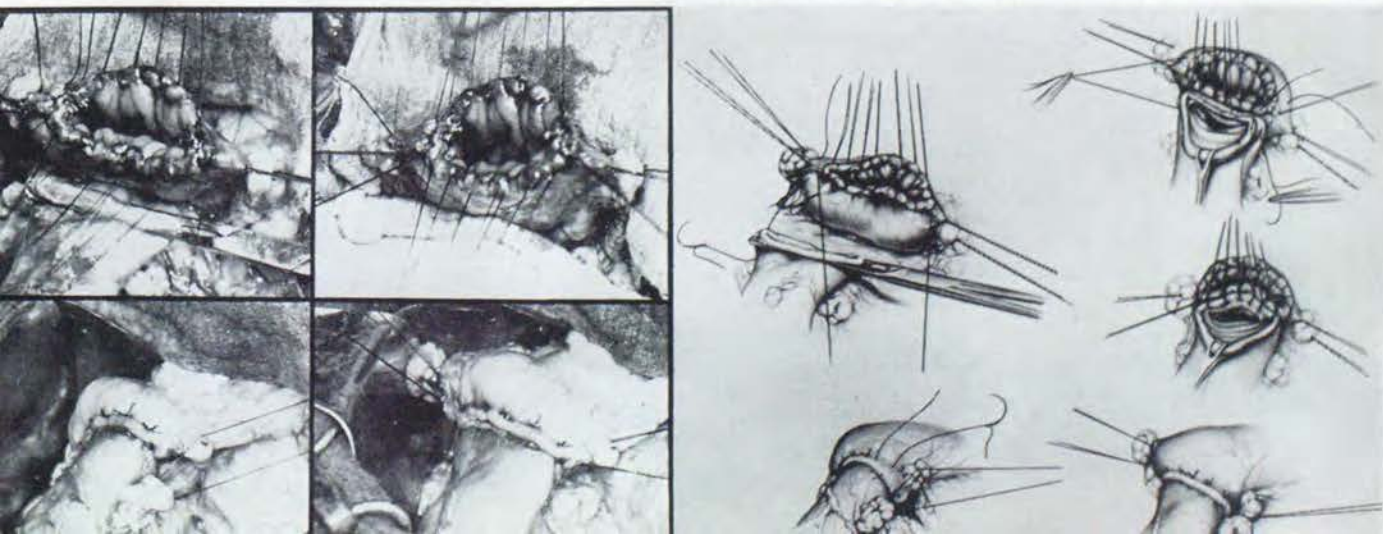
To improve the quality of the surgical photographs, the photographer should make a point of discussing the operation with the surgeon previous to the time of surgery. A thorough understanding of the forthcoming procedures and the important steps to be illustrated is important. This is also a convenient time to explain the problems faced by the photographer and to offer tactful suggestions on how to improve the quality of the photographs by certain considerations on the surgeon's part.

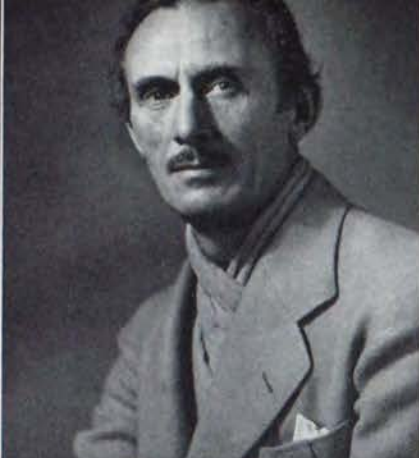
Just before each picture is taken, the surgeon should replace soiled drapes with clean ones, should wash his hands and if necessary, cover or tilt instruments that cause distracting reflections. If the angle is such that the wound or subject cannot be properly viewed, the anesthetist may be requested to tilt the table towards the camera. If movement is a problem, the patient's breathing may be arrested for several moments without adverse effects.

### Specimens and Instruments

The photography of specimens and instruments is basically a problem in positioning and lighting and as such needs little elaboration. However, the photography of small, wet objects can create a problem. For this reason I will describe a method used for this procedure. For purposes of discussion assume that the problem is a one cm human fetus. The object is pale pink in color, highly reflective and very fragile; so delicate that if placed on a hard flat surface, distortion occurs. As a solution to this  
(Turn to page 565)

PHOTOGRAPHY AS A TOOL. Left: Four steps in a gastric resection photographed in sequence with no regard for background appearance. Right: Same procedure rendered in tone by an artist using the photographs as reference. (Photographs and finished drawings by author.)





⏏ Kourken studies each subject for character and face structure. Each is lighted differently. In his lighting, he picks out the highlights, then hides defects in shadow. He prefers low to high key.

an idea that I have done well right from the beginning. My first year, I made little or no money. So if you are about to start anew, bear this in mind — be either adequately financed, or be prepared to starve and deny yourself everything until the business begins to mesh.

#### Window Display

I have found, too, that putting in your windows even the best of portraits unrelated to your locality is dynamite. People will stop and come in because they see someone they know. At first, I displayed pictures of people I had photographed in New York and Detroit. No one knew them here in California! People looked, maybe even liked the pictures, but they passed me right by. My very first customer was not exactly from Pasadena; he was from Santa Monica, but at least he was some 15 miles from my location instead of 2,000. *Someone* knew him, someone saw and came in, and that started the endless chain which continues to date.

This experience may make one think that the best way to get business is to sit at the studio and wait. It never works and I have never tried it myself. I look for busi-

## MY THEORY OF

I WOULD never think of starting a sitting until I am briefly acquainted with the subject and he or she is completely relaxed.

After the subject is at ease I feel these things are the most important: a) Simplified lighting; b) Background; c) Atmosphere; d) Camera Angle; e) Expression; f) Exposure.

One of the questions with which every photographer is faced sooner or later — usually sooner — is how to make money with his lens. For, obviously, he is not in business just for the pleasure of it. Although to look at some of us, one would think that we are on a perpetual vacation.

#### Informal Studio

It is all right, however, to run a studio *informally*. I have done so with a fair degree of success. I abhor price lists and other gimmicks that complicate life and my relationship with a client. I can pretty well judge what a client can pay by looking at him or talking to him on the phone. Like a doctor, I feel that my prices should be geared to a person's circumstances. I never dun anybody. In fact, I kid them about not paying. Laughter cures many things, including a tight fist.

The informality extends into my business of contacting clients. I do not advertise. I never have. All my advertising is by word-of-mouth. Of course, this may also be a warning, as a bad reputation can spread as easily as a good one.

I have been in business over 15 years. But do not get

ness. I go after the business wherever it may be. Many of my calls come from other parts of the state.

Once a girl came to my studio for a portrait. She was not an ideal subject. Her features were irregular; her nose was too large. But I knocked myself out to take a good picture, and did. A year later she asked me to come out and make her wedding photographs in a town far removed from Los Angeles. Local photographers there resented my coming, but I told them I did not go after the business. I was invited. The girl felt grateful for what my portrait did for her. The first pictures I made cost her \$50. The sum total she brought to me was \$1,200. Moral: It pays to do your best, and to value your services accordingly.

I found that one of the most important assets a photographer can have is his own ego. Many who have come to me have had the idea of walking away with a high-key picture. But they bought and paid for the low-key ones — the kind I like to take and the kind I do best. How did I do it? I told them that they could have their high-key photographs, but that I would take some special ones in low-key for my own amusement, that I might even send them to some display somewhere — that pricks up their ears. Actually I meant what I said. I did not even care to sell those low-key photographs. I balked at selling them. But those were the very ones they wanted and no others. Of course if they wanted *mine* — it would cost them a

Every person has to be photographed individually, there is only one. ⏏

little more . . . so they ended up by paying more for their folly of telling me what to do.

Some photographers treat a customer as if he were a walking cash register and all they want to do is press the button so that register will ring. I spend time with my customers. My sittings last anywhere from five minutes to five hours. I talk to my subjects. I find out their likes and dislikes. I sometimes take them to lunch. I scold them. I cajole them. I joke with them. I play music for them. If they are impossible, I just send them home in the first 15 minutes. If they go along with me, I will come out with a fine portrait.

I give men six proofs, and women eight proofs. That's all. At this point, I do not try to sell them. I listen. I have to; up to that moment, all they did was listen to *me*.

#### Man Behind Camera

I have been asked many times what sort of papers, chemicals and cameras I prefer. My only peculiarity is the use of cone shaped 100-watt lights and a small dinky, instead of powerful 1,000-watt lights which tend to tire the subject. After all, a portraitist is after expression. If you have a "beat-down" expression, you have no picture. I have proven many times that my lighting gets best results, and after several demonstrations at conventions many professionals use it. Aside from that, any paper, any chemical and any camera are OK.

It is *the man behind the camera* that counts. If he knows what he is doing and can project his skill and personality into the picture, he is in. If he can't, he is out. I do not improvise. I use the products as recommended by the manufacturer. That gives the best results.

#### Study Subjects

Also, I am not a "bolt of lightning" boy. I study my subjects — their character, their face structure. Each type of face has to be lighted differently. Instead of picking up the highlights later, I *paint with light*. I pick out my highlights and hide the defects in shadow. All the while I talk. The subject is animated. When he least expects it, I squeeze the bulb and the right moment — the one moment in eternity — is captured.

Some of my competitors have advised me to get rid of my accent. Some say it is an asset, as is my beret and my smock. And why shouldn't I keep them? I am an artist, too, with oils, in my own right. Should I get my clothes soiled just because someone knocks at the door every five minutes? The beret is no attempt at being highbrow. There is *no quaintness* in my approach. That's just *me*.



by R. Kourken,  
Pasadena, California



I take big business with the small. If the customer wants portraits, he gets them. If he wants passport pictures, he gets them at my minimum price. I talk as I like, to rich and poor alike. I sign the pictures I like myself, of which I am proud. The pictures that just the customer likes, I do not sign. I put them in white folders, that is all. My signature costs more money, too, for there is just one *me*.

Anyone who tries can make good pictures for there is goodness in all people. You have to know how to bring it out. Every person has to be photographed individually. There is only that one person. After they made him, they broke the mold. The only reproduction of that mold is the photograph.

My customers know better than to ask me what the usual price is. The last one that asked me that was a typical dowager from Pasadena. "Madam," I said, with my most courtly bow, "it depends on the car you're driving," and I looked knowingly out the window where I could see a shiny big car at the curb. Some people may call it impertinence, but my customer-friends do not take it that way. They know that with me it is a combination of fun and good horse sense. ▲

**T**ODAY everyone is aware of the major role that chemistry plays in all phases of our life. Most photographers know that the entire photographic process is a matter of chemistry and physics but because they are not trained in these subjects they often overlook the many benefits made possible by applying chemistry to their own darkroom.

A constant urge for improvement is the American way of life. To a large quantity print concern, better methods may mean savings of several hundred dollars a month in addition to increased quality. On the other hand the smallest one-man studio may find the savings measured by only a few dollars a month but a real increase in quality is just as important to him as it is to the largest concern in business. In the last analysis it is the careful attention to such details that makes large studios grow from small beginnings.

#### Tests and Procedures

For those with technical training there is a wealth of data on the chemistry of photography, but too often this is not translated into the language of the average photographer. It is our purpose here to show how easily these principles can be applied to your great advantage once they are understood. By the use of a few simple tests and by proper procedures it is quite easy to increase quality and permanence of prints and negatives at half the cost of methods now employed by many studios.

Since testing developers by chemical means is very complex we are not considering it here but suggest that the recommendations of the manufacturers be followed to determine the useful life of your developing solutions.

#### The Stop Bath

A stop bath is intended to do three things: It stops development, it helps to maintain the acidity of the fixing bath and it prevents stains.

When the photographic image in a print or negative has reached the proper density in the developer, the action of the chemicals in the developer should be stopped quickly and evenly. Since developers are alkaline, their action can be stopped by a mild acid solution. Acetic acid is the one best suited to this job because of its low cost and comparatively long life.

#### Measuring Device

To neutralize the alkali in the developer rapidly, the stop bath should be strongly acid. The strength of an acid is measured by its pH value. A neutral solution such as pure distilled water has a pH of 7.0. As the acidity is increased the pH value becomes lower. In the same way, alkaline solutions have a pH value greater than 7.0. Since there are a number of prepared test solutions and test papers available, it is not necessary to be concerned with the chemical significance of pH values but you should be able to use them as a measuring device.

A freshly prepared acetic acid stop bath should have a pH of 4.0, and the bath will be effective until the pH reaches about 5.5. Do not make the mistake of thinking that if a little acid is good a lot will be better. If too much acid is used in the stop bath so that the pH is much less than 4.0, it will tend to cause blisters if the developer contains a carbonate as most of them do. Furthermore

# TWICE the QUALITY at HALF THE COST through Chemistry

by Lemont B. Kier

Kier Photo Service, Cleveland, Ohio

Quality control can be maintained easily and effectively by the proper application of certain principles of chemistry to the photographic processes

carrying excessive acid over to the fixing bath can cause sulphurization making the fixing bath unfit for use.

The acidity of your stop bath can be tested quickly and easily. One method is by the use of an indicator dye such as bromocresol purple (or solution A in the Kodak test kit). Add two drops of this indicator solution to about one-half ounce of the stop bath solution in a test tube or small bottle. If the color remains yellow under ordinary light the bath is still good. If it is purple under ordinary light the bath is exhausted and should be discarded.

#### Indicator Paper

An indicator stop bath can also be used. Stop baths of this nature offer a convenience in that the user does not have to perform any test outside of the working container.

Another and better method of testing the stop bath is by the use of an indicator paper such as Hydrion Paper having a range of 3.0 to 5.5 in pH value. This test paper is made by Micro Essential Laboratory, Brooklyn 10, N. Y. Each container has several rolls of paper and a color chart which shows the color the paper will change to in a solution of any pH from 3.0 to 5.5. The advantage of testing with this paper is that you can see just what the pH of the stop bath is at any given time and you will know about when it is reaching the point of exhaustion. To use this paper you merely tear off about a one-inch strip and im-

merse it in the stop bath. Then by comparing the color of the test strip with the color chart you can read the pH of the stop bath directly. Film stop baths should be discarded when the pH value goes up to 5.0, but stop baths for paper can be used until the pH is 5.5 before they have to be discarded.

### The Fixing Bath

This step in the photographic process offers the greatest opportunity for the average photographer to increase quality and decrease cost by taking advantage of improved methods made possible by the application of chemistry.

A suitable fixing agent must have several important characteristics, such as the following:

- A. It must dissolve the silver halides completely.
- B. It must form stable salts with the silver halides which are not only soluble in the fixing bath itself but which will also not decompose in the washing operation.
- C. It must not attack the gelatin in the emulsion.
- D. It must not affect the developed image.

Sodium thiosulphate known as "hypo" and ammonium thiosulphate which is used in rapid fixers are about the only products which meet the above requirements at a cost making them suitable for general use. A number of prepared fixing baths are available as are formulas for preparing your own by adding various chemicals to hypo in order to give hardening qualities as well as prolong the life of the fixing bath.

A fresh fixing bath removes silver salts readily, but as it is used the silver it accumulates tends to be absorbed by the paper base in the case of prints and can be washed out only with great difficulty. However, difficulty with absorbed salts can be readily decreased if the prints are placed in a second fresh fixing bath. This chemical principle is the basis for the two-bath method for fixation of prints.

### Greater Economy

Scientific experiments have shown that 200 size 8x10 prints can be processed through two one-gallon fixing baths with results comparable to those obtained by processing 30 8x10 prints in a single one-gallon bath. Still greater economy is possible by using the second bath to replace the first bath when the first one is exhausted. In the second cycle the first bath will have some silver salts initially so the rate of carry-over of the silver will be greater than in the first cycle. This carry-over will increase with each cycle so that after five cycles have been completed, both baths should be discarded and fresh ones prepared.

In the two-bath system, the carry-over of silver is an important factor and for that reason proper draining of prints becomes quite significant. The initial draining when the surface hypo runs off rapidly is most important. In this respect it makes little difference whether the prints are drained individually or in clumps. Experience has shown that the prints should be drained for at least five seconds between the first and second fixing baths. With the two-bath system, three to five minutes in each bath is ample time for complete fixing.

If it is convenient to count the number of prints processed, figure an average of 200 8x10 prints per gallon of fixer. When this number has been processed, discard the first bath, replace it with the second bath and make up a new second bath. After five cycles discard both and start over again.

If it is not convenient to count the number of prints, the fixing bath can be tested for residual silver with a 20% solution of potassium iodide. You can prepare your own solution or get it as Solution B in the Kodak Test Kit. To make the test place five drops of the potassium iodide solution in a clean test tube and add five drops of the fixing bath to be tested. Mix well and add five drops of water. If the bath is exhausted a permanent yellowish-white precipitate will form and settle out. You can disregard a milky solution as long as no precipitate is formed. Use this test to determine when the first bath should be exhausted and continue with the cycles as outlined above.

### Washing

After the prints are fixed properly they must be washed to remove the hypo and the residual silver salts. Failure to remove these chemicals will affect the permanence of the prints and they will eventually discolor, stain and fade.

Removing the unwanted products of the fixing bath from the emulsion part of a print or from film is not too difficult but the paper base and baryta coating used in photographic paper tend to retain these chemicals with great tenacity. This retention of chemicals by the paper is increased by too long an immersion in the acid stop bath or in the fixing bath. Prints should be in the stop bath for only one to two minutes and in each of the fixing baths for only three to five minutes.

### Water Volume Changes

To have an efficient washing system it is necessary to have an adequate flow of water in gallons-per-minute plus the proper number of changes of water volume in the washing unit in a given time. In addition it is important that a properly designed washing apparatus be used so that all prints will get equal washing. Hanging a hose over the top of one end of a tank will not give efficient washing. Turbulence and water replacement should take place throughout the washer continuously.

The flow of water should be adjusted to provide a complete change of water every five minutes. You can check the efficiency of your own system by adding a little potassium permanganate solution to the washer while in operation and note the length of time necessary for the purple color to disappear.

*Lemont B. Kier graduated as a chemistry major from the University of Nebraska in 1924. He then performed graduate work at Yale University. After working as a chemist for Dextro Products Co., Mr. Kier went into the photofinishing business in 1939, and in 1947 started Kier Photo Service as a quantity photo-printing business. Average annual production now totals about 2,000,000 prints of all sizes. Mr. Kier is Past President of the Cleveland Society of PP and a member of Alpha Chi Sigma, professional chemical fraternity.*



# EXCLUSIVE INSERT DESIGN

by *Topflight*

Now you can offer your customers a smooth-fitting, full acetate insert — exclusive with Topflight. These new inserts fit TIGHT for better appearance — yet

they're easy to load because the reversible frame is cut smaller than the pocket . . . slides in a secret "loading track" that holds securely. Ask for a demonstration!



Write today for Topflight's catalog of exclusive albums for photographers . . . and name of your nearest dealer.

## UNIVERSAL BOOKBINDERY, INC.

GENERAL OFFICES: P. O. Box 159, San Antonio 6, Texas  
EASTERN SALES OFFICE: P. O. Box 221, Islip, New York

Because of the tendency of prints to retain hypo in the fibers of the paper, they do not lose hypo at a steady rate while being washed. The bulk of the hypo will be washed out in five minutes but a harmful residue will be left and can be removed only with considerably difficulty. In most cases the last traces of hypo cannot be removed by prolonged washing of as much as 20 hours. However, for all practical purposes small traces of hypo in prints will not have any adverse effect.

It is possible to accelerate hypo removal from the prints by one of two principles (after they are first washed for two to three minutes to remove the excess hypo and to prolong the life of the accelerator): (1) The prints are immersed in a 2% solution of sodium sulfite for two minutes, thereby enabling the water to penetrate the emulsion more readily and facilitating removal of the products of fixation; (2) Prints are treated in chemicals which either destroy the products of fixation or replace them with materials more readily soluble in water — solution of sodium sulfite and sea water (used during World War II) or Kodak hypo clearing agent. The latter has the advantage that it is a neutral bath and hence there is no softening action on the gelatin, thus reducing danger of scratches and abrasions.

Following treatment, the prints are washed in running water for ten minutes. These treatments will result in a level of residual hypo that is less than that obtained by washing the prints in plain water for over an hour.

You can check the effectiveness of your processing procedures by the use of two readily prepared chemical solutions. To test for residual silver which will show how efficient your fixing has been, prepare a stock solution made by adding 36 grains of sodium *sulphide* (not sulphite) to four ounces of water. For testing purposes dilute one part of the stock solution with nine parts of water. This diluted solution should not be kept for more than a few days. Place a drop or two of the diluted solution on the margin of a squeezed film or print. Remove the excess after two minutes with a clean cloth or blotter. Any color which results other than a very light cream indicates the presence of undesirable silver compounds in the material.

To test for residual hypo in films or prints, prepare the following solution:

Water	24.0 ounces
Acetic Acid, 28%	4.0 ounces
Silver Nitrate	1/4 ounce
Water to make	32.0 ounces

Keep this solution in a brown glass bottle, preferably glass stoppered, and when not in use keep away from light. Avoid getting it on hands or clothing as the silver nitrate will cause stains. To test the efficiency of your print washing run a piece of unexposed paper through the usual fixing and washing processes. Place one or two drops of the test solution on the face or emulsion side of the paper and allow it to stand for two minutes. Rinse to remove the excess chemical. The depth of color of the brown stain remaining is a measure of the hypo still in the paper. A light brown stain is permissible for any purpose other than archival prints but any color darker than a light brown indicates insufficient washing. For an exact comparison of color use a Kodak Hypo Estimator or compare with the tint patches shown in Kodak's pamphlet No. J-8 entitled "Permanence of Photographic Negatives and Prints."

In conclusion it should be pointed out that quality control can be maintained easily and effectively by the proper application of certain principles of chemistry to the photographic processes and the degree of your control can be checked readily by the use of a few easily-prepared chemical products. ▲

### References

1. "Two-Bath Fixation of Prints," by Crabtree, Henn and Edgerton, *P.S.A. Journal*, Vol. 19B, No. 1, Feb. 1953.
2. "A Processing Test Kit," by Henn and Crabtree, *P.S.A. Journal*, Vol. 19B, No. 4, Nov. 1953.
3. *The Theory of the Photographic Process*, by C. E. Kenneth Mees, The Macmillan Co., New York.
4. "Kodak Master Darkroom Dataguide," Eastman Kodak Co., Rochester, N. Y.
5. "Permanence of Photographic Negatives and Prints," Pamphlet J-8, Sales Service Division, Eastman Kodak Co., Rochester, N. Y.

To please your most discriminating clients, use...

# TRU-SITE®

NON-GLARE  
PICTURE FRAMING GLASS

Provides Invisible Picture Protection  
Stops Annoying Light Reflection



The two photographs at right are exactly the same — with one exception. The picture with the distorted image is framed with ordinary picture glass. Its image distortion is caused by light reflection. The clear, sharp photo has

been framed with Tru-Site non-glare picture framing glass. You see it without distortion since all light reflection is eliminated and its beauty is still fully protected. For complete customer satisfaction—show and sell TRU-SITE!

this is  
**TRU-SITE**  
picture glass

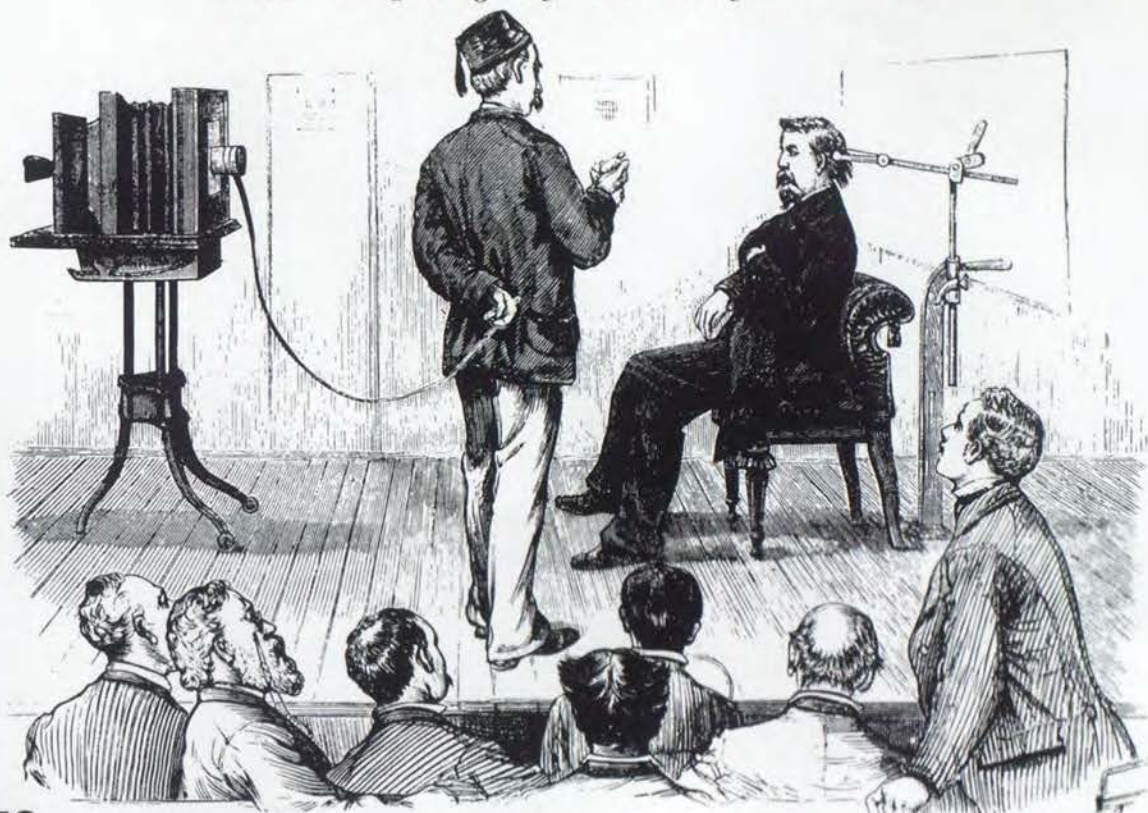
this is  
**ORDINARY**  
picture glass

Write today for your free "See-it-Yourself" demonstration kit.

## DEARBORN GLASS COMPANY

6600 SO. HARLEM AVENUE  
BEDFORD PARK, P. O. ARGO, ILLINOIS

# "The Legacy of an Infant Art"



**1879:** PHOTOGRAPHING WITH DRY PLATES. The sitter had to be suspended in an immobilizer, since the exposure time varied from between one and several MINUTES.

**1959:** PHOTOGRAPHY BECOMES A TRUE ART FORM. The New York Metropolitan Museum has its first Photo Art Show and the professional photographer is elevated to the rank of artist.

No longer handicapped by the antiquated equipment of his heritage, he can concentrate his superior technical know-how and artistic talents completely on his subject matter.

Equipped with a modern precision camera that can provide a degree of versatility and operational simplicity unavailable to photography's early pioneers, he can fulfill his legacy—achieve optimum artistic quality.



## SINAR ONE VIEWCAMERA FOR:

- **ANY JOB:** The SINAR STANDARD, basic camera, with its unique "Construction-unit" principle, can easily be adapted to any photographic assignment.
- **ANY FORMAT:** Change of backs and bellows (or reducing adapters) rapidly converts the SINAR to any one of 5 formats: 8x10—5x7—4x5—2¼x3¼—2¼x2¼".
- **ANY LENS:** Completely collapsible wide-angle bellows, short (6") optical bench tube and unlimited extension allow the use of extreme wide-angle (47mm Super-Angulon) and telephoto lenses (800mm or more!)
- **ANY ADJUSTMENT:** Unlimited rise and fall, 90° tilts, 3" left-right shifts, 30° side swings and complete camera swivel around optical bench.
- **ANY SPECIAL APPLICATION:** SINAR accessories permit—ultra close-ups, copy-work, microphotography, color separation, trick shots, multiple exposures, 45° angle pictures, etc., with minimal effort.
- **ANY-WHERE:** Lightweight, compact and completely collapsible precision construction for convenient portability and instant set-up on location.

Visit your franchised SINAR dealer (partial list below) or write for free illustrated brochure NS-11

From \$349.00

CALIFORNIA	GARDEN & WILLIAMS	601 N. La Brea, Hollywood 36
	BROOKS CAMERA	45 Kearny, San Francisco
MICHIGAN	GARRICK'S PHOTO SUPPLY, INC.	3166 Cass Ave., Detroit
MISSOURI	STANLEY PHOTO	106 N. Broadway, St. Louis
NEW YORK	ROYALTONE CAMERA	245 7th Ave., New York 1
OHIO	MANSFIELD PHOTO SUPPLIES	20 S. Park St., Mansfield
TEXAS	PATTERSON PHOTO SUPPLIES	113 E. Main, El Paso



# 1960 — COMING CONVENTIONS — 1960

Listings of coming conventions are based on information sent to PP of A Headquarters, Milwaukee. Omissions are due to lack of proper notification.

Association	Date	City and State	Hotel	Officer
Professional Photographers of Louisiana	Jan. 29-31	New Orleans, La.	St. Charles	John Kuhlman, Pres. 5590 Canal Blvd., New Orleans, La.
Kentucky Professional Photographers' Assn.	Feb. 20-22	Louisville, Ky.	Kentucky	Richard Duncan, Conv. Chmn. 1108 S. 4th St., Louisville, Ky.
Professional Photographers' Assn. of New Mexico	Feb. 21-23	Albuquerque, N. M.	Western Skies	Leo E. Rorabaugh, Sec'y-Treas. 222 E. Main St., Tucumcari, N. M.
Professional Photographers of Michigan	March 6-8	Saginaw, Mich.	Bancroft	Dorothea Stobart, Sec'y-Treas. 115 S. Jefferson Ave., Saginaw, Mich.
Ohio Professional Photographers' Assn.	March 6-8	Columbus, Ohio	Neil House	Howard Newmarker, Chmn. 1619 Brownell Court, Cleveland, Ohio
North Carolina Photographers' Association, Inc.	March 6-9	Raleigh, N. C.	Sir Walter Raleigh	Burnie Batchelor, Chmn. P. O. Box 10525, Raleigh, N. C.
Wisconsin Professional Photographers' Assn.	March 13-15	Milwaukee, Wis.	Pfister	Lavern LeMere, Sec'y-Treas. 108 West 4th Street, Marshfield, Wis.
Southwestern Photographers' Association, Inc.	March 26-29	Ft. Worth, Texas	Texas	Ernie Curtis, Sec'y-Treas. 2815 Classen Blvd., Oklahoma City, Okla.
Illinois Photographers' Association	March 28-30	Springfield, Ill.	Abe Lincoln	William Schultz, Sec'y 521 1/2 15th Street, Moline, Ill.
Professional Photographers of Indiana	April 3-5	Indianapolis, Ind.	Severin	L. R. Clippingier, Pres. 503 West Wayne St., Ft. Wayne, Ind.
Missouri Photographers' Association, Inc.	April 3-5	Jefferson City, Mo.	Governor	C. R. Bray, Conv. Mgr. 9th & Frederick St., St. Joseph, Mo.
Professional Photographers' Society of New York	April 3-6	Elmira, N. Y.	Mark Twain	Ralph Walker, Sec'y 73 N. Main St., Brockport, N. Y.
South Dakota Professional Photographers' Assn.	April 3-5	Sioux Falls, S. D.	Sheraton-Cataract	Robert T. Brown, Sec'y-Treas. 218 1/2 N. Main St., Mitchell, S. D.
Professional Photographers' Assn. of Oklahoma, Inc.	April 9-11	Oklahoma City, Okla.	Biltmore	H. O. Phillips, Pres. 106 North 5th Street, Ponca City, Okla.
Wyoming Professional Photographers' Assn.	April 24-25	Casper, Wyo.		Mark Patterson, Sec'y-Treas. 1215 Arapahoe, Thermopolis, Wyo.
Kansas Professional Photographers' Assn., Inc.	April 24-26	Wichita, Kans.	Broadview	Bill Barton, Sec'y 1916 Gage Blvd., Topeka, Kans.
Georgia Professional Photographers, Inc.	May 7-9	Athens, Ga.	University of Georgia	Robert A. Troup, Sec'y-Treas. Box 151 Toccoa, Georgia
Maine Professional Photographers' Assn.	May 9-10	Portland, Me.	Eastland	Adelaide Anderson, Sec'y-Treas. 125 Main Street, Lewiston, Me.
Montana Professional Photographers' Assn.	May 14-15	Great Falls, Mont.		M. E. Lacy, Vice Pres. 240 Central, Whitefish, Mont.
Professional Photographers of Iowa	May 15-17	Des Moines, Iowa	Savery	Duane Salie, Conv. Chmn. 615 1/2 Lake Ave., Storm Lake, Iowa
Northwest International Photographic Convention	May 22-25	Portland, Ore.	Sheraton Portland	E. R. Gilbert, Chmn. 798 S. W. Morrison St., Portland 5, Ore.
Professional Photographers' Society of Vermont	May 23-24	Burlington, Vt.	Oakledge	Mrs. Clifford Patch, Sec'y 14 School St., Randolph, Vt.
Florida Photographers' Association, Inc.	June 19-22	Miami Beach, Fla.	Saxony	Donald Schwarm, Sec'y-Treas. 817 N. W. First St., Ft. Lauderdale, Fla.
Southeastern Photographers' Association	June 19-22	Miami Beach, Fla.	Saxony	D. E. Dickerson, Sec'y-Treas. P. O. Box 300, Shelbyville, Tenn.
Professional Photographers of California, Inc.	June 30-July 4	San Francisco, Calif.	Jack Tar	Natalie Rokusek, Exec. Sec'y 609 Sutter St., San Francisco 2, Calif.
Texas Professional Photographers' Assn.	July 7-10	Dallas, Texas	Baker	Les Lande, Sec'y-Treas. 3153 N. McCullough Ave., San Antonio 12, Texas
Minnesota Professional Photographers' Assn.	July 10-13	Minneapolis, Minn.	Calhoun Beach	W. E. Newman, Pres. 227 1/2 So. Broadway, Rochester, Minn.
Professional Photographers of Nebraska	July 10-12	Omaha, Neb.	Paxton	Al J. Werthman, Exec. Mgr. c/o Art Center Studio, Hartington, Nebr.
Rocky Mountain Professional Photographers' Assn.	July 17-19	Denver, Colo.	Shirley-Savoy	P. H. Broadie, Exec. Sec'y 2170 S. Lincoln, Denver 10, Colo.
<b>PROF. PHOTOGRAPHERS OF AMERICA, INC.</b>	Aug. 7-12	Chicago, Ill.	Conrad Hilton	Frederick Quellmalz, Exec. Mgr. 152 W. Wisconsin Ave., Milwaukee 3, Wis.
Professional Photographers' Assn. of Pennsylvania, Inc.	Aug. 28-30	Philadelphia, Pa.	Sheraton	Vincent De-Piante, Jr., Exec. Sec'y 1756 Clinton Ave., Shamokin, Pa.
Virginia Professional Photographers' Assn.	Aug. 28-30	Old Point Comfort, Va.	Chamberlain	Van P. Moore, Pres. 3201 Grove Ave., Richmond, Va.

## PORTRAIT FINISHING

Developing, 70 mm developing and finishing, retouching, proofing, enlarging, coloring, heavy oil coloring, wallet prints, quality prints, copies.

Write for price list.

**OSBORNE LABORATORIES**  
505 ELM ST. CINCINNATI, OHIO

Give

The **UNITED** Way



## "CHILL-CHASER" IMMERSION HEATERS

FOR TANK OR TRAY  
Convenient "CHILL-CHASER" Heaters automatically maintain temperature of developing solutions to  $\pm 0.1^\circ\text{F}$ . Light, rigid "CHILL-CHASER" Tank or Tray Immersion Heaters plug into 115 V., A.C. outlet. Precision made of anti-rust stainless steel, these thermostat-controlled, portable units are available in 2" to 60" lengths priced from \$10 to \$25.

STILL-MAN Equip. Corp. 435 E. 164th, N. Y. 56, N. Y.

# Local, State and Regional News

## RECENT ELECTIONS

### PP of California



*Ralph Morris*  
Ted Sirlin, President; Burton Frasher, Jr., M.Photo., 1st Vice Pres.; Doug Mack, 2nd Vice Pres.; Danny Rouzer, M. Photo., Sec'y. Not shown is Billie Cox, Treasurer.

### Sacramento PA (Calif.)



*Paul Rogers*  
W. Courtney, Ted Sirlin (PP of Calif. Pres.), Marion Jensen, Imm. Past Pres., Sacramento.

William Courtney, President; Monte Van Buskirk, Vice President; Rene Kurlander, Secretary; William Coop, Treasurer; "Doc" Lyon, Bud Laws, Paul Rogers, Ernie Stuebner, Fred Nunn, Larry Gately, and Howard Hertel, Directors.

### PA of Santa Clara Valley (Calif.)

A. Del Carlo, President; Abe Leon, Vice President; Ralph Di Tullio, Secretary; Roland Wolfe, Treasurer; Hans Roth, Mac Hernandez, Cliff Donahue, Directors.

### Minnesota PPA



*Huga Studio*  
W. E. Newman, President, Carleton Rust, Vice Pres.; E. D. Bengtson, M.Photo., Sec'y; James M. Bjerk, Treasurer. Not shown are directors W. A. Johnson, Daniel Novak, Jr., Don Rickers, Everett Kroeger, Ross Daniels.

### PA of New England

George Heilpern, President; Lewis Daniels, 1st Vice President; John H. Hobbs, 2nd

Vice President; Anton Hanania, Secretary; Elizabeth Richardson, Treasurer. State Vice Presidents are James E. Clark (Me.), F. J. Sullivan (N. H.), William Bartlett (Vt.), Samuel Cooper (Mass.), Stanley Szelka (R. I.), Robert E. Burian (Conn.).

Over 650 attended the annual PA of New England convention in September at Portsmouth, N. H. New Hampshire Governor Wesley Powell was special banquet guest.



Two leading theatrical photographers discuss plans for a feature program of the 1961 PP of A Exposition of Professional Photography in New York. From left: Alfred Cheney Johnston, Oxford, Conn., "Ziegfeld Follies" photographer; Hollywood's Wallace Seawell, M.Photo.; PP of A Executive Manager Frederick Quellmalz, Hon.M.Photo., at the PA of New England Convention, Portsmouth, New Hampshire in September.

### PPA of Louisiana

A "Winona Convention" featuring Winona School of Photography instructors is scheduled to be held by the PPA of Louisiana at the St. Charles Hotel, New Orleans, January 29-31, 1960. Program personnel will include Gerhard H. Bakker, M.Photo., Milwaukee; Phyllis Moore, M.Photo., New Orleans; Harper Leiper, M.Photo., Houston; and Gene Botsford, M.Photo., Rochester, N. Y.

### Long Island Studio PA



Bank furnished sign which reads: "Dedicated to a strict code of business ethics; to the finest quality of portraiture; to good customer relationship and maintaining the high standards of the photographic profession."

Recently reorganized under the name of the Long Island Studio Photographers' Assn. (formerly the PP of Long Island), the group is sponsoring a display of framed photographs now being exhibited in 33 branches of the Franklin National

# WHICH of these BEATTIE PORTRONICS is right for you?



MODEL A PORTRONIC—70mm portrait camera. Automatic electric or manual operation.



IMPERIAL #90—Uses 3½" heavy-base roll film. Adaptable to 70mm. The ultimate in automatic portraiture.

Do you do mass school photography? Identification photos? Fine portraiture? These are some of the questions that determine which Beattie Portronic is best for your needs. Incomparable efficiency, complete automation, electric shutter, automatic film advance, negative identification, reflex viewer with matched lenses and removable magazines are available. All models are Beattie precision quality. Compare them at your Beattie dealer's now.

**B BEATTIE-**  
**C COLEMAN** Inc.

1000 N. Olive St., Anaheim, California  
Branch: 437 Fifth Ave., New York, N.Y.

# Want it? - Get it - from PIERCE

DRAPES • BACKGROUNDS  
STUDIO TOYS • GIVEAWAYS ETC.  
WRITE FOR FREE CATALOGS

HERE ARE THINGS THAT WILL  
MAKE EVERY STUDIO MORE  
PROFIT — when you use them.

## SCHOOL DRAPES (all colors)

V-Neck School drape-sleeves	\$ 9.95
V-Neck (front and back) sleeves with Cummerbund front tie	12.95
Black Lace-Satin school drape	6.95
New Peasant Blouse (jersey)	10.95
Marabou Feather-Satin drape	9.95
Petite 2 piece velvet drape	10.95
Plain velvet drape-over arms	3.95

## GLAMOUR DRAPES (for teenagers etc.)

Silver Lurex Lace over Silver	\$ 6.95
Three Glamour drapes (assorted)	10.00
Two pieces tulle and 2 belts	5.00
V-Neck Silver Lurex-Cummerbund	12.95
Buffant Drape — goes around	12.95
Halter Style with Cummerbund	10.95
All colors available — specify colors.	

## BABY BENCH COVERINGS (50 in.)

Washable	1/2 Yd.	Two Yd.
Crushed Plush	\$ 5.25	\$ 6.95
Rugloom — no lustre	5.25	6.95
Rugtex — lightweight	4.25	5.50
White Orlon — washable	7.25	8.95
Bunny Cloth (dry clean)	5.25	6.95

## BABY TOYS TO HOLD — plastic bags

Ten small plastic balls	\$ 1.00
Three small dogs in bag	1.00
Ten assorted baby rattles	1.00
Ten barking dogs (noisy)	1.00
12 — heavy duty squeakers	1.00
Ten small plastic animals	1.00
Ten 2 in. red rubber balls	1.00
(3 bags...\$2.75    6 bags for \$4.95)	

## PLASTIC BACKGROUNDS (18x48)

We have about 20 different styles for backgrounds including two new numbers for Men's Backgrounds. Send for catalog. Low prices on 9 foot Seamless paper rolls. White...\$6.75    Colors...\$7.50  
Metal rollers for paper (parts) \$24.95

## BACKGROUND MATERIALS

Clear Glame — 3 yard length	\$ 6.75
Gold-Silver Glamour Mesh — 3 yard	5.95
Gold-Silver Metallic Mesh — 3 yard	3.95
Black Dooskin background — 3 yard	7.95
Gold-Silver Bullionette — 2 yards	5.95
Stand and Background barholders	22.50

## PHOTO MAILERS — ENVELOPES WHITE CARDBOARD — MATBOARD

Write for catalog on these items showing low prices when shipped by truck. Including Glassine Envelopes and Negative Preservers.

## POSING BENCHES for studios

Nichols Baby Posing Stand	\$17.50
28 in. Bride Poser (gray-beige)	27.50
36 in. Bride Poser (gray-beige)	34.50

## WRITE FOR CATALOGS

We mail these on different lines — Drapes — Backgrounds — Paper Products — Studio and Giveaway Toys — Artists' Material on request only. Write on studio stationery.

**PIERCE Company**  
STUDIO SUPPLIES TO THE PORTRAIT-COMMERCIAL TRADE  
3701 Nicollet Ave. Minneapolis 9 Minn.

## NORTH CAROLINA PA LETTER TO SURVIVORS

Little can one do to lighten the burden of grief that is yours with the passing of a loved one, but we would have you know that our sincere sympathies go out to you in your hour of sorrow.

Unfortunately, people in your position often times find themselves ready emotional prey for unscrupulous promotions. We are ashamed to have to admit that one of these is the "photographic racket" which this organization is dedicated to wipe out. Survivors are solicited to have reproductions, copies, enlargements, paintings and other forms of photographic restorations made from old photographs or snapshots of the deceased. The results are always inferior, if the work is delivered at all, and the

prices are usually exorbitant and far above represented quotations. About our only way of combating these unethical operations is to warn surviving members of the family.

If you do have need of such photographic services as described above we suggest that first, you delay until emotional reactions have subsided, second, contact the State Licensed NCPA photographer in your town or your shopping area. If you are uncertain as to who this legitimate and ethical photographer is in your area, we invite you to call this office collect, from any point in the State of North Carolina and the desired information will be cheerfully given you.

The master copy of the above letter is kept on file in the office of the Secretary of the North Carolina Photographers' Association, Inc. Copies are mailed directly to survivors from the State office upon the request of any North Carolina PA member. In the letter, there is no mention of who requested it to be sent, and no suggestion to patronize a particular studio.

Bank. Earlier this year, the initial cooperative effort of the LISPA was a display of photographs at the Fashion and Living Exposition, Roosevelt Raceway in May.

Carl Horowitz is President and Jack Lieberman is Vice Pres. of the association.

### Architectural PA

The Architectural PA meets on the second Tuesday of each month, with dinner at the President Restaurant at 6:00 p.m., and meeting at the Architectural League, 115 E. 40th St., New York City, at 8:00 p.m.

### PPA of Greater Kansas City

Future dinner-program meetings of the PPA of Greater Kansas City, Inc. are: January — "Color Photography"; March — "Projected Backgrounds and Basic Lighting" by Gene Claxman, M.Photog.

### Fox River Valley PA (Wis.)



LeFebvre-Luebke  
M. Matzke, B. Walters (WDUZ), J. Speltz.

Several minutes of free air time over Green Bay's radio station WDUZ, in which listeners were urged to stop in at a professional photographer's studio for a sitting, were aired by disc jockey Bill Walters. The Fox River Valley PA (Wis.) recently met at a supper club where the radio station has a nightly record program. Maurice Matzke, Fox River Valley PA President and guest Jim Speltz, Indianhead PPA President, talked with Walters on the program, following the meeting. ▲

## THE COMMERCIAL CORNER

by Harper Leiper, M.Photog.

One method of eliminating shadows in small product photography is the use of lighted glass underneath the product.



Light box for eliminating shadows in small product photography.

have built a light box 46x46" square and 30" deep, mounted on 4" legs. Into the top we cut out a square hole 35x35". On the bottom edge of this cut-out, we screwed a frame of 1x2" trim so that it juts out into the hole 1/2". Into the framed cut-out we placed two sheets of glass. First, we placed a sheet of 1/4" plate glass. On top of this we placed a sheet of 1/8" opal glass. In the bottom of the box, we placed six 24" single fluorescent light units, spaced equal distances apart. The whole inside of the box is painted white. The side panel which will be at the front of your setup is hinged to allow access to the bulbs. We have hinged another solid piece of wood that acts as a cover when the box is not in use. This also serves as a good table top setup spot.

For straight-on photographs, we have suspended the tripod pole from a small Deardorff "roll-a-round" tripod. We use a step ladder to see into the groundglass.

To determine exposure, place the product on the opal glass, set up lights as on an ordinary product photographed on paper. Take an incident meter reading or direct reading on a gray card placed over the product. Make the normal exposure. Then turn off the flood lights, turn on the

(Turn to page 565)

## PARTNERS from page 542

will have no such available information, and believe it or not a few will not know the difference between *mass marketing and selected marketing*.

Advertising is no more of a robot production than is photography. There may be some basic, ground rules to be followed, but there is just as much copywriting art and pictorial art involved as is necessary to make a skilled photographer. Furthermore, *the profession of photography is further advanced* in demonstrating these artistic skills. I repeat (proudly), photographers have developed their skills further per individual than have the "gray flannel and dry martini boys."

### Opinion Formers

*Fourth* — Ask this prospective advertising helper who he considers to be the opinion formers in your particular community. This question is a deliberate trap. So many currently practicing advertisers know nothing about opinion forming. They are so agitated over trick schemes to sneak-up on the blind side of the "slobs" that they miss the basic motivation which causes people to buy.

For instance, if the answer to the above question does not include the ministers and educators (neither of whom have much money to spend), get rid of that proposed helper as quickly as possible. It takes a small amount of culture to appreciate photography. Its need is *not* born of an instinct. (Love is an emotion with little or no instinctive motivation.) Ministers and educators should be promoters of portrait photography because they (supposedly) are leaders of culture.

It would seem that I am being very discouraging. Far from it. I am hoping *only* to sell caution, because there are some very smart, talented, clever, competent, capable and wise advertising men who have long since traded their gray flannels for gray matter, and who are not addicted to dry martinis. Like photographers of distinction, however, they are inclined to be modest and hide their lights under a bushel. Maybe these four questions can help to separate the blowhards from the hard blow-makers to the profit of a wonderful profession of truly talented artists and craftsmen.

## NEW PRODUCTS from page 538

stainless steel drum liner; and "super-gloss" chromium-plated copper drum shell. Net price of the Dryer-Glazer is \$3,600. . . . Kodak has introduced Kodak Panalure Paper, F, single weight, a paper with emulsion characteristics and speed comparable to double weight Panalure Paper, E, for making black-and-white prints from Ektacolor negatives.



B & W

Beckman & Whitley, Inc., 973 E. San Carlos Ave., San Carlos, Calif., developed the Model 335 stand initially for use with the Magnifax high-speed motion picture camera. Weighing 43 lbs. and standing 61" high overall, the stand provides camera platform adjustments from 14" to 62" above floor level. Two standard tripod threads on  $\frac{1}{4}$ " and  $\frac{3}{8}$ " thumb screws are located on the platform for securing various instruments. In addition to a crank-operated rack and pinion elevating adjustment, the platform has a rotary mounting which permits 90 degrees of motion in either direction; it can be locked at any point.

Allied Impex Corp., 300 4th Ave., New York 10, N. Y., is importing the Ultrablitz Monojet, single-unit, self-contained, (Turn to page 562)

put this  
miracle  
into your darkroom!

1  
step  
processing  
with

unibath

UNIBATH has been hailed by professionals without exception. And no wonder! 6-minute, 1-step processing. 5-minute washing. No critical time or temperature controls. No over-development. (UNIBATH develops all images to the full extent of the exposure then stops —*automatically!*) Cost, processing capacity and storage life equal to conventional 3-step processing. What a terrific time and work saver for photographers on the run! UNIBATH is available at your dealer. CC-1 for normal films normally exposed . . . CC-2 for forced development and available light photography . . . CC-3 for contact and projection papers.

Progress in Photography . . . Through Darkroom Miracles!

**CORMAC CHEMICAL CORPORATION**

80 Fifth Avenue, New York 11, N.Y. • ORegon 5-9310



**FOR PRINTS**

### THE SEA WAVE

No motors, no electrical gadgets. Water power does it all — simply, dependably and economically. Prints are gently soaked and agitated with no matting. Two sizes — for 11 x 14 and for 20 x 24.

**FOR  
Gentle  
THOROUGH  
WASHING  
LEEDAL  
WATER POWERED  
UNITS DO IT  
Best**



**FOR FILM**

### THE CYCLONE

Swirling fresh water circulates between every negative. Two sizes — for 5 x 7 and for 8 x 10.

See your friendly dealer, or send today for LEEDAL Catalog No. M-75



2929 S. HALSTED ST. • CHICAGO 8, ILLINOIS

**LEEDAL**  
INCORPORATED

# "You Push the Button . . ."

Preoccupation with tools makes us slaves to our machines

by Orren Jack Turner

SOME YEARS ago in Scranton, Pennsylvania, I sat in a fairly large audience of photographers and listened to a well-known professional close his demonstration with the usual inevitable question-and-answer session. When the inevitable question was asked, "What kind of a lens did you use to make that photograph?" his answer was quick and cruel: "The bottom of a coke bottle, probably. I really don't remember. I use them all."

While his rudeness was unnecessary, and perhaps not even original, his contempt for the question and its implication is certainly worthy of our examination.

### Technical Data

Every photographic discussion at chapter, state, and convention level, every photography article, book and magazine seems entranced by the myriads of technical data involved in the making of the prize-winning print. Under every photograph is an exhaustive, detailed description of the camera used, the size of the film, the developer, and even the filter selected by the maker.

Lectures and articles by the hundreds, with accompanying illustrations, continually glorify the clever claptrap which "created" this or that wonderful picture: "Photographer X says this superb illustration was made with a Super Claptrap Special."

But the photographer? Well, he just "caught" that! He "happened" to see it. He "shot" it (on the wing?). In short, it would seem, from our own admission, that our profession is composed of craftsmen and technicians who know how to push the button on a damn clever machine. *When* it was pushed is quite often an accident, and *Why* it was pushed is usually a mystery not very clearly understood by anyone. It is seldom even mentioned.

### Mechanical Device

Objectively, of course, we know that the camera is just a box, a mechanical device which takes, but does not make, pictures. Cameras, of course, cannot make pictures; neither do emulsions, lights, filters, optical glasses, chemicals or any of the thousand and one minor items of equipment and gadgetry which photographers use to make pictures. Because we all know this very well, it is astonishing that so little emphasis is given up to the thinking of the photographer, his intent, his concept.

As Bruce Downes once put it: "Pho-

tography is still too conscious of itself as a technical process. Mechanics (is) the curse of photography."

### Low Regard

What a shameful thing this is, this negation of ourselves by ourselves! No wonder people hold us in such low regard, at the bottom of all professions. They take us at our own value, as button-pushers, as self-admitted mechanics, who have know-how but not much know-why.

We ourselves credit the equipment, not the man. Can you imagine the successful surgeon discussing his brilliant operations with special emphasis on his Tru-Blue scalpel and Johnson's oxygen? Imagine an art catalogue showing a Picasso, and listing such vital statistics as Holland Turpentine, Marshall Oils, and Vandime Brushes. Can you imagine the owner of such a painting bragging that it was painted on imported canvas? Of course you can't, he couldn't care less. The merit of the work is its maker, its meaning, its effect, and its place in the sun. No one except the seller of paint-brushes is interested in the tools of execution.

### Slaves to Machines

Our own preoccupation with our tools rather than our purpose is making us slaves to our machines, and we are abdicating to the beautiful unthinking, uncreating machine our roles as masters of our art. Our fascination with gadgets sends us out to buy cameras with automatic lens-setters to solve our problems of decision. Our speedlights make it less necessary to be good craftsmen in the camera room, and our densitimers make masters of us all in the darkroom.

Perhaps all this seems a rather carping way to remind you that you are the vital part of photography, that you, and not your camera, are capable of creativity, that you evolve the decision, the intent, and the spontaneous moment of action necessary to photography. The photograph and its maker — not the camera and its lens stop — are our profession. We must not become less sensitive to the forest picture because of the technical trees.

But ten will get you 20 that the next convention will permit you the luxury of hearing the tired old question asked of the speaker: "Sir, what kind of lens did you use?" ▲

Reprinted from *The Bulletin*  
PPA of New Jersey

## INSIDE INDUSTRY

**Business press**—Recent articles in leading business publications have brought the role of photography in industry before top management.

In the September 21 issue of "The Wall Street Journal," a lengthy front page story was titled, "Factory Photos." The October 17 "Business Week" contained a three-page report on photographers in industry, with interviews and cost saving accounts of industrial installations.

Both of these articles were initiated by the PP of A in its continuing effort to tell the professional photographer's story to the public and to increase the prestige and standing of the industrial photographer.

**Mid-States IPA**—An all day conference for members and guests of the Mid-States Industrial Photographers' Assn. was held on October 3 at the Americana Motel, Chicago. Over 50 were in attendance.



Front row: Merle Deardorff, Arnold Watland, Clarence Hansen, Rex Anderson; (back row) Irwin L. Merry, M. A. Connely, F. Quellmalz, William H. Miller, Wm. W. C. Wilke Jr.

Speakers for the first such conference held by the Mid-States IPA were: Irwin L. Merry, M.Photo., Liquid Carbonic Div. General Dynamics Corp., Chairman; M. A. Connely, Du Pont; Frederick Quellmalz, Hon.M.Photo., PP of A Executive Manager; William H. Miller, Watland Inc.; Wm. W. C. Wilke, Jr., M.Photo., Crane Co.; Merle Deardorff, L. F. Deardorff & Sons, Inc.; Arnold Watland, Watland Inc.; Clarence Hansen, Allis-Chalmers; Rex Anderson, Eastman Kodak Company.

**Greater Pittsburgh PI**—1959-60 officers of Greater Pittsburgh Photographers in Industry were announced at the September meeting at Duquesne University. They are G. Calvin Murberger, Jr., Blaw-Knox Co., President; George R. Poelot, Universal-Cyclops Steel Corp., Vice President; John C. Stewart, Jones & Laughlin Steel Co., 1st Secretary; Willard E. Cur-



Seated: John Stewart, G. Calvin Murberger Jr., George Poelot, Richard Hutchinson. Standing: Henry Navratil, Walter Beaver, Robert Davis, Frank Ziegler, Ted Varner, Rev. Vincent Deer, and Willard Curry.

ry, Allegheny Ludlum Steel Corp., 2nd Secretary; Richard D. Hutchinson, Blaw-Knox Co., Treasurer; Frank Ziegler, Gimbel Bros., Historian. Directors are Rev. Vincent Deer, Duquesne University, Chairman; Robert M. Davis, Union Switch & Signal Co.; Ted Varner, Weirton Steel Co.; Walter Beaver and Henry O. Navratil, of Allis-Chalmers Mfg. Co.

**Underwater camera**—An automatic underwater camera designed to probe the ocean bottom at depths of six miles has been developed by Edgerton, Germehausen & Greer, Inc., 160 Brookline Ave., Boston, Mass. The camera has an electrically-controlled shutter synchronized to an electronic flash of 100ws capacity. It weighs about 50 pounds, is 22 inches long and five inches in diameter.

**Diazo type machine**—Two new diazo type copying machines, Copyflex Models 600 and 320, have been put on the market by the Charles Bruning Co., Inc., 1800 W. Central Rd., Mount Prospect, Ill. The model 320 table-top machine (illustrated) has a 42" printing width and accommodates sheets or roll stock. It



Bruning

makes prints at speeds of up to 25 feet per minute. A reversing switch permits removal and realignment of incorrectly fed sheets. ▲

## FROM THE MAILBAG

To the Editor:

Although I never knew him as intimately as did you—my strong admiration for J. Edmund (Watson), as I called him, causes me to make an attempt at expressing my feelings of astonishment and shock by the notice in *the National Photographer* of his passing.

His great sense of humor, a continuous smile, his friendly greeting and abundance of energy grooved for him a niche in the hearts of all of us who knew him—even in a casual way. Photographers nationally will not forget him soon and it goes without saying his efforts expended toward the good of photographers and photography will long live.

B. T. Maxey  
Tucson, Ariz. ▲

## STOP PAYING HIGH PRICES FOR FILM & PAPER

Read this comment from a leading advertising photographer

Hundreds of other testimonials are on file.

Jules Alexander  
Photographer  
520 Fifth Ave., N. Y. 36, N. Y.  
"We were delighted to find KOH-I-NOOR paper gave us highlights and cleaner highlights than more expensive brands. VAR-I-PAN film is perfect for our needs. It with thin emulsion quality of other films that are too contrasty. We're getting better pictures with your film and paper at half the price, and that's some thing!"

### var-i-pan

PANCHROMATIC FILM  
FINE GRAIN  
THIN EMULSION

Made to professional standards. Factory packed. Factory fresh. Cut Film, Film Packs, 35mm, 70mm, 120. Speeds: ASA 25, 50, 100, 250.

### KOH-I-NOOR

PORTRAIT  
and  
ENLARGING  
PAPER

Made to professional standards. Factory packed. Factory fresh. Available in double weight portrait or enlarging in a rich variety of surfaces: silk, lustre, semi-matte, glossy. And in single weight glossy.

Write on your letterhead for samples and prices.

**SUPREME** PHOTO SUPPLY CO., INC.  
1841 BROADWAY, NEW YORK 23, N. Y.

## NEW 1960 WEDDING ALBUM CATALOG



NOW AVAILABLE  
FREE UPON  
WRITTEN REQUEST

STRATHMORE SALES, INC. Dept. N  
495 Wythe Avenue, Brooklyn, N.Y.  
Sales affiliate of  
ATLANTIC BINDERS, CORP.

Gentlemen: Please send me your new FREE 1959 Wedding Album Catalog

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

I buy my albums from \_\_\_\_\_

# MAKE YOUR OWN WHITEPRINTS!

**END ANNOYING DELAYS...  
CUT REPRODUCTION COSTS!**



**PRINTS TAKE ONLY SECONDS  
... COST ONLY PENNIES**

- 3 lamps mean 3 times the speed
- Finger-tip external speed control
- Guaranteed for a full year
- Makes sepia reproducibles

So convenient; saves your valuable time! Copies full 42" material in any length—no warmup time required! Sharp, "big machine" quality prints develop quickly in see-thru tube... you see when they're ready! Pays for itself in a few short months... ask your dealer for proof!

Write for literature and a demonstration!

UL APPROVED

REPRODUCTION ENGINEERING CORPORATION  
565 WESTERBROOK ROAD • ESSEX, CONN.

## BLU-RAY

### Now Available to YOU...

- A STUDIO-TESTED SYSTEM THAT ASSURES:  
SIMPLE RECORDS — LESS ERRORS — HIGHER PROFITS

One complete writing takes care of customer's receipt, file copy, proof envelope, negative envelope, and accounts receivable ledger.

- No charge for use of system.
- No cost for complete instructions.

FREE descriptive folder and sample forms, write: Dept. N

### WOEHRMYER PRINTING COMPANY

770 Acoma Street, Denver 4, Colorado

## IT PAYS TO ADVERTISE

in the National Photographer

### 1959 Readership Analysis of the National Photographer

This is to certify that VAC, as a part of its circulation verification procedure, made an independent survey of this publication's circulation list. VAC obtained the following additional information concerning the readership of the publication. Of those who received the publication and for whom the addresses were correct VAC found that:

- |  |  |
|--|--|
| 1. 100.0% say they read the publication: | 2. 94.8% say they find the editorial content useful to them. |
| 87.9% read it regularly,                 |  |
| 12.1% read it occasionally, and          | 3. 96.9% say they find the advertising useful to them.       |
| 0% say they never read it.               |  |

Subscribed and sworn to before me this 19th day of August, 1959.

John Matsumoto  
My Commission Expires July 22, 1963.  
By John B. Knight, President

THE VERIFIED AUDIT OF CIRCULATION COMPANY  
8350 Santa Monica Blvd. • Los Angeles 46, Calif.

## NEW PRODUCTS from page 559

fully-transistorized electronic flash. It is claimed that, with the sealed-in nickel cadmium battery and unit for recharging from household current, the flash has guaranteed lifetime operation without flashbulbs, battery replacement or accessories. The Monojet has a light color guide of 52, power at 40ws, 50 flashes per charge and nine-second recycling time. It weighs less than two pounds and is priced at \$69.95.

Spraymation, Inc., 25 Amity St., Little Falls, N. J., announces the introduction of the Spraymation Model 9101 Controller, a unit that automatically releases bursts of gas at short intervals, for a period of up to 30 minutes. The total development time is set on an adjustable pointer so that repetitive cycles may be used. Continuous agitation or testing can be carried out by means of a selector switch. A remote cycle indicator, which is placed outside the darkroom, indicates that correct agitation is being maintained. About three minutes before the end of the period, a steady light signals that the process will soon be over, automatically stopping the agitation.



Spraymation

Scheibe Engineering, Inc., Box 208, Burlington, Wis., has introduced Reflecto-Brite flood reflectors and spotlights for incandescent lamps. Variable beam (from 20° to 90°) 12" Floodreflector is priced at \$34, list; variable beam (from 40° to 120°) 7" Background Reflector is priced at \$29, list; variable beam (20° to 50°) 6 3/4" Spotlight with fresnel type lens and barndoors is \$57.

Ilford, Inc., 37 W. 65th St., New York 23, N. Y. — FP3 Series 11, 35mm medium speed, fine grain panchromatic film (improved FP3). . . . Yashica, 234 5th Ave., New York 1, N. Y. — Yashica YF 35mm camera, with focal plane shutter and interchangeable lenses: \$149.95. . . . Realist, Inc., 2051 N. 19th St., Milwaukee 5, Wis. — Realist Custom f/2.8 Stereo camera (first major change in 12 years), features rangefinder click stops, larger wind and rewind knobs, stronger tension on rewind control, internal film-plane focusing, and shutter speeds from one second to 1/200. Price: \$215. . . . Ricoh Camera, 521 5th Ave., New York, N. Y. — New model Ricoh 500 35mm camera offers three-window floating frame viewfinder/rangefinder with built-in automatic parallax correction: \$59.95.

Richard Mfg. Co., Box 2041, Van Nuys, Calif. — High-impact plastic clip for stringing or hooking on drying line: ten for \$2.00; sample 25c. . . . Tomorrow, Inc., 3775 E. Ft. Lowell, Tucson, Ariz. — Thin-line grade 316 stainless steel film hanger with no moving parts or clips. "One-up," 4x5—\$1.85; "Two-up," 5x7—\$4.60; "Four-up," 4x5—\$5.95. . . . Morphy-Richards, Inc., 323 So. Van Brunt St., Englewood, N. J. — Astral portable refrigerator, Model BME-2, for film storage; exterior dimensions are 26" high, 20 1/2" wide, 21 1/4" deep. . . . Polaroid Corp., Cambridge 39, Mass. — Exposure meter, Model 625, reads directly in EV numbers and can handle film speeds from ASA 12 to ASA 12,000; it will fit either Land or other cameras: \$16.95.



Still-Man Equipment Corp., 429 E. 164th St., New York, 56, N. Y. — Chill Chaser, tray temperature control electric immersion heater. The unit is made in various sizes, is adjustable, thermostatically controlled and automatically raises and maintains temperature of solution to within 1° F. . . . Cormac Chemical Corp., 80 5th Ave., New York 11, N. Y. — Unibath CC-1, CC-2 and CC-3 available in quart and gallon size liquid concentrate. Quart size is \$3.95 per bottle for CC-1 and 2, \$4.35 for CC-3; gallons are \$13.50 each for CC-1 and 2, \$14.90 for CC-3. . . . Pako Corp., 1010 Lyndale Ave. N., Minneapolis 11, Minn. — Aqua-Pure water filter with clear plastic housing and cellulose "throw-away" cartridges.

Karl Heitz, Inc., 480 Lexington Ave., New York 17, N. Y. — Filter holder for Swiss Sinar interchangeable view camera, fastens to the front frame of the camera and can be swung out

of position while exchanging lensboards or adjusting the lens; \$25.90. Swing-in type lens hood bellows, attaches to Sinar filter holder, is \$15.90. . . . **Photographic Importing and Distributing Corp.**, 67 Forest Rd., Valley Stream, N. Y. — Matched telephoto and wide-angle lens sets for both 4x4cm and 2 1/4x2 1/4 format twin lens reflex cameras. The "44" matched sets are \$19.95 each, combination is \$37.95; "66" sets are \$24.95 each, combination is \$47.95.

**H. A. Bohm & Co.**, 4761 W. Touhy Ave., Chicago, Ill. — Crestline 500 manual-automatic slide projector with "edit-while-showing" feature, \$69.95. . . . **Bell & Howell**, 7100 McCormick Rd., Chicago 45, Ill. — Headliner 710, 500w semi-automatic slide projector has 10 1/2x11 1/2-inch screen built into case cover, \$69.95. . . . **General Photo Products Co., Inc.**, General Photo Bldg., Chatham, N. J. — Genco Porta-Fax photo-copying machine, reproduces anything printed or written up to 9 1/4" wide by any length; measures 18x6x10 inches high, weighs 15 lbs.; operates on 115v AC, \$149. . . . **Cooks' Inc.**, Blackwood, N. J. — Mult-O-Ring binder that will hold up to 140 sheets in 70 transparent sleeves. Oval hole punching permits turning the leaves freely; available in Russhide and Vinylhide covers.

**Kling Photo Corp.**, 257 Park Ave., S., New York 10, N. Y. — "They Minox for Business . . . for Pleasure" — 16-page brochure. . . . **Norman-Willets Co.**, 316 W. Washington St., Chicago 6, Ill. — "Supplies for the Graphic Arts" — Catalogue No. 207, 164 pages, request on company letterhead. . . . **Victor Animatograph Corp.**, Div. of Kalart, Plainville, Conn. — "Questions and Answers about the Newest Name in 16mm Sound Projectors" — 12-page booklet on the Kalart/Victor Model 70-15. ▲



**TROJAN Retouching Machine**  
Triple Action — Magnetic and Rotating Negative Holder  
Gear Controlled Magnifier  
Send for Details and Two Weeks' Trial  
Trojan Industries Box 484 Troy, Ohio

It's New . . .  
It's Different . . .  
It's a **CAMILLE** Exclusive!



## WHITE PEARLIZED OSTRICH

**CONSTRUCTION** — White Pearlized Ostrich fabric, Pyroxylin-coated for moisture and stain resistance. Familiar CAMILLE quality construction and attention to detail assures complete satisfaction.

**DESIGN** — A delicately different "Our Wedding," stamped in genuine Gold, beautifully sets off the brilliant highlights in the Pearlized Ostrich grain. Other inscriptions also available.

### 800 SERIES

No. 818: Choose from a wide variety of Popular Insert styles available.

### 1700 SERIES

No. 1718: A new, small Musical Album, Comes with either DX or M Inserts.

### TV SERIES

No. TV818: A nickel-finished Multi-Ring best-seller. Has six 8" x 10" Inserts.

AVAILABLE IMMEDIATELY — See Your Dealer or Write . . .



**THE CAMILLE CO., INC.**

19 ROCKWELL PLACE • BKLYN. 17, N. Y. • ULster 8-2670  
"Originators of the Musical Photo Album"

**TWO**

## NEW PAKONOMY DRYERS . . . for B/W Glossy and Matte Prints



Model 13

Up to 100 8 x 10's S.W. Glossy or 65 8 x 10's D.W. Matte prints per hour • Handles prints up to 12" wide • 1400 Watt Electric Air Heated • Seamless Super-drum • Complete with dust cover . . . (all metal base stand is optional).

Replaces Pako Electrogloss Dryer



Model 26

Dry B/W, Single or Double Weight, Matte or Glossy • Up to 230 8 x 10's S.W. or 150 8 x 10's D.W. Prints per hour. (Color material 135 8 x 10's per hour with AS-2557 Stainless Steel Drum.) Positive drive unit . . . easily adjustable speeds from "slow" to "fast" • Chrome plated Seamless Drum • Handles material up to 24" wide.

Replaces the Pako Economy '48 Dryers

Here are two Models of the new Pakonomy Dryer that will solve the problem of handling large volumes of B/W glossy and matte prints and deliver quality results. All the latest features are included, plus modern, functional design. There is a new Pakonomy Dryer Model to fit your print drying needs.

Accessories available for glossy and matte strip drying, for color material and Blotting Roller Group for matte drying.



Get complete information from

**PAKO CORPORATION**

1010 Lyndale Avenue North, Minneapolis 40, Minnesota

PAKO FOR PROGRESS

## ARE YOU AN UNPUBLISHED AUTHOR?

If you have a book length manuscript you would like to have published, our editorial staff will be glad to consider it. Our program has launched many new writers. Submit your work for free evaluation and further information. We consider all types of material.

**GREENWICH BOOK PUBLISHERS**

Attn.: Mr. Ainsworth 489 Fifth Ave., N. Y. C.

## WALLET PHOTOS 3¢

Kier fine contact prints guarantee you repeat and referred business on the wallet photos all kids want! Top quality every time!

**FREE! YOUR STUDIO NAME IN THE MARGIN OF EVERY PRINT**  
This means repeat business for years.

In quantities of 500 or more, 3c. Less than 500 prints, 3-1/2c. Less than 50 prints from any one negative, 3-1/2c (regardless of total size of order)

Write for free samples today!

**KIER PHOTO SERVICE**

Dept. NPW, 1220 West 6th St., Cleveland 13, Ohio

## LENZ Hi-Speed ROTARY WASHERS

"BY FAR THE BEST"



**GUARANTEED TO WASH PRINTS TWICE AS FAST AT HALF THE COST**

Write and get the facts

**LENZ WASHER CO.** P. O. Box 70  
(Since 1919) Lebanon, Missouri

## CESCO Lite TRAYS

8 SIZES

WHITE HIGH-IMPACT PLASTIC

**GUARANTEED UNBREAKABLE!**  
COLUMBIAN ENAMELING & STAMPING CO., Inc., Terre Haute, Ind.

## FTC NEWS from page 536

be "within three to four weeks after the order has been received by the company."

To the allegation that finished prints are "greatly inferior" to the transparencies and sample photographs shown, Mr. Coff declares that proof passers do not claim finished prints will look like the sample photographs exhibited to customers. "The only representation in this connection," he adds, "is that the sample photograph was reproduced from a transparency and looks like said transparency."

Denying that he frequently fails to keep appointments for sittings, Mr. Coff states that his concern averages 400 to 500 sittings

per week and he "does not claim absolute perfection as to schedules for sittings, submission of proofs and delivery of prints."

Also denied is the allegation that his business practices have substantially injured competition in violation of the FTC Act. Mr. Coff says he "employs only the identical methods used by his competitors."

Accompanying the answer was a motion for a more definite statement. Mr. Coff contends that language used in a section of the complaint was too "vague, evasive, conclusive and indefinite" to allow him to prepare adequately his defense. 9/4/59 ▲

## MEMBERSHIP APPLICATIONS September 1959

The following applications for PP of A membership were received during the past month. Code after address is as follows: (A-P) Active Portrait, (A-C) Active Commercial, (I) Industrial, (A) Associate, and (S) Service. Name at end of line in italics is that of sponsor.

### ARKANSAS

Edwards, Richard Ralph, Editorial Service, Uni. of Ark., Fayetteville (I) *Jack Moncrief*  
Elkins, Norman Lee, Lee Elkins Photography, Drawer 8, Route One, Thornton (A-C)

### CALIFORNIA

Dreessen, G. Elaine, Dreessen Photographic Studio, 43 S. Los Robles Ave., Pasadena (A-P)  
Frazier, Wayne Melvin, I.B.M. Corp., Monterey & Cottle Rds., San Jose (I)  
Hager, James William, 259 Oak Road, Santa Barbara (A)  
Mazzerro, Norbert, 5027 Bond Street, Oakland (A-C)  
Martin, D., Radiplane, Div. of Northrup Corp., 8000 Woodley Ave., Van Nuys (I) *R. Wolford*  
Murray, Robert Ernest, P. O. Box 163, Lompoc (A)  
Pilon, David A., David's Studio, 936 S. Hawthorne Blvd., Hawthorne (A-P)  
Seamans, Joe Edward, Monarch Color Laboratory, 1800 W. Pico St., Los Angeles (S)  
Youngkin, F. G., Calif. Inst. of Technology, E. California St., Pasadena (I) *G. Emmerton*

### COLORADO

Corwin, Albert O., United States Air Force Academy (A-P) *Edward J. Toplett*  
Stock, Amos Gibbs, Rountree Color Lab, Box 26, 2449 Eliot St., Denver (S)

### DISTRICT OF COLUMBIA

Boone, L. C., P. O. Dept., Graphics and Reproduction, 12th and Pennsylvania Ave., Wash. (I) Hanabass, Florence Darline, 1415 Tuckerman St., N. W., No. 319, Washington (A) *John Roach*

### FLORIDA

Powell, Howard T., Howard T. Powell Photography, 513 Park Ave. S., Winter Park (A-P)  
Thompson, J. W., Jr., J. Thompson School Photog., 291 N. E. 170 St., N. Miami Beach (A-P)

### GEORGIA

Bisson, Jim H., Jr., Jim Bisson Photography, 18 Bishops Court, Savannah (A-C)

### KANSAS

Fromme, James H., 1123 Commercial, Emporia (A-P)

### LOUISIANA

Richardson, Joe Mitchell, Jr., Joe Richardson Photography, 112 W. Alabama Ave., Ruston (A-P)

### MASSACHUSETTS

Isariotis A. G., Avco Research Advanced Develop., 201 Lowell St., Wilmington (I) *C. L. Norton*

### MICHIGAN

Trahan, D. E., G. M. Tech. Center, Research Labs., 12 Mile and Mound Rds., Warren (I)

### MINNESOTA

Gerard, Donald M., Story Book Club, 2637 Nicollet, Minneapolis (A)

### MISSOURI

Cunningham, Glenn Robert, Hallmark Cards, 25th and McGee, Kansas City (I)

Swingle, Edwin L., Powell Studio, 531A Court St., Fulton (A-P) *Fernon C. Linderoth*

### NEBRASKA

Junge, Arthur Emil, Arthur Junge Photography, 314 W. 24th St., Scottsbluff (A)

Stewart, George William, Stewart Studio, 225 S. 4th St., Albion (A-P)

### NEW YORK

Cole, Donald Raymond, Krauss Photo Service, 11 Sussex St., Port Jervis (A)

Hoffman, Joseph, Joel Photo Studios Inc., 16 Chapel St., Ellenville (A-P) *Walter T. Hulse*

### OHIO

Weins, Jon Anthony, Anthony Weins Studio, 13899 Cedar Rd., Cleveland (A-P)

### PENNSYLVANIA

Emsinger, Harvey L., Emsinger Studios, 2nd and Walnut Sts., Harrisburg (A-P)

Marion, H. R., Quaker Photo Service Co., Inc., 914 Walnut St., Philadelphia (A-C) *R. Opler*

### TENNESSEE

Sweat, Joseph A., Bill and Joy Webb Photography, 510 S. Highland, Memphis (A) *W. Webb*

### VIRGINIA

Foster, CWO William Wallace, Hq. 45th Military Police Detachment, Fort Lee (A) *Alvin Jones*

### WASHINGTON

Archer, Frank, Frank Archer Photographer, 1116 West 10th St., Port Angeles (A-P) *M. Rogers*

### WISCONSIN

Brzezinski, George Leonard, Color-Tex, 1622 W. Wells St., Milwaukee (A-C)

Hess, Ruth Elaine, Highlight Studio and Mezinis Studio, 2711 Douglas Ave., Racine (A)

Russell, John M., John Russell Photographer, 708 1/2 2nd St., Menomonie (A-P)

Wikle, Jane L., Box 382, Rice Lake (A)

### FOREIGN

Morelock, Jack, Photo by Morelock, c/o Oasis Oil Co. of Libya, 250 Ghatat Istiklal, P.O. Boxes 317, 377, 561, Tripoli, Libya, North Africa (A-C)

Nicol, Donald Walter, Donicol, 16 Rolina St., Blacktown, NSW, Australia (A-P)

Lopez, Nereo, Nereo fotos, Av. Jimenez No. 5-30, Of. 404, Apartado, Aero No. 96-31, Bogota D. E., Colombia, South America (A) ▲

## BOOK BRIEFS

**PICTURE SOURCES: An Introductory List.** Edited by Helen Faye. Special Libraries Association, 31 E. 10th St., New York 3, N. Y. 115 pp. \$3.50.

The first authoritative guide of its kind for locating and procuring pictures in the United States and Canada. Entries are arranged in 14 major subject categories. Included in the 398 sources are photo agencies. Listed as one of the "Picture Finding Tools" is the "PP of A Directory of Professional Photography."

**THE ABC'S OF CAMERA REPAIR.** By Samuel L. Love. National Camera Repair School, Englewood, Colo. 84 pp. \$3.95.

This glossary of Photo-Technology is a dictionary of camera repair terms, containing over 2500 entries. With a view towards standardization, many of the words and phrases used to describe camera parts are defined here for the first time.

**FIND A CAREER IN PHOTOGRAPHY.** By Robert E. Hood. G. P. Putnam's Sons, 210 Madison Ave., New York 16, N. Y. 159 pp. \$2.75.

This guide for young people illustrates various career possibilities by focusing on the photographer as a person. The author discusses backgrounds and education of several photographers, and tells "How they got started." ▲

## BUSINESS from page 533

away from home, however, and their parents are viewed through entirely different eyes.

With the realization that they haven't been as appreciative as they should have been, the young people have a desire to make amends. How better to do this than by requesting a portrait of mother and dad? A nicely worded letter from the studio to the young people suggesting that their parents be urged to have their portraits made should get a fine response.

A photographer I know increases his volume materially each year by watching the newspapers and taking down the names and addresses of widows who are left by husbands who die before their time. Several weeks later he sends a direct mail piece,

without comment, which outlines his service in copying and making additional prints of treasured family pictures. This fellow is not only making good money for himself; he is also providing a valuable service for his public!

#### Little Leaguers

Another photographer told me that he grosses as much as \$2,000 some weeks by photographing the Little Leaguers in his and surrounding communities. He makes a 3x5 direct color print of each player and a 7x5 group picture of each team in black-and-white and sells the combination for \$5. What a terrific potential for extra business, and, again, what a fine service for his customers!

The demand is growing for high school prom pictures in direct color. At commencement time, good money can also be made by photographing the graduates as they receive their diplomas. What parent wouldn't pay generously for this record of one of life's big moments!

#### Definite Use

As members of a fast-moving economy, we must learn that people don't buy photographs because they think we are the best photographers in the country or because we have been in business for "umteen" years or because we have the biggest studio in town. They buy because they have a definite use for our product.

We must be imaginative enough to think up uses for our portraits and then prove to the public that we have something "precious beyond price" that satisfies a deep-felt human need. The more effectively we do this, the more we will prosper. ▲

### MEDICINE from page 549

problem, the fetus was immersed in a small glass container full of water. The bottom of the container was painted dull black to offer maximum contrast. Both the problems of distortion and reflection were eliminated in this way. Careful placement of lights to bring out contour and texture was then carried out without reflective problems.

Although the art of photographing medical subjects varies little from other photographic techniques, a certain feeling of urgency exists; a knowledge that if you fail to capture this fleeting phenomenon of nature, it will be gone forever. A sense of loss, too, when a patient whom you have come to know loses his battle for life, but above all, a feeling of achievement in the realization that the contributions of photography in the never-ending war against sickness and disease are important both to us and to those that will follow. ▲

### COMMERCIAL from page 558

fluorescents underneath. Take a direct reading of the light through the glass and expose five times the reading. You may, of course, vary this exposure depending on the subject matter.

You may photograph objects from an oblique angle by setting up a tripod at the edge of the box and applying the same

technique. Extreme care must be taken not to move the camera while changing the settings on the shutter. It is suggested that the difference in exposure be made by changing the f-stop only so that it is not necessary to move the time setting.

This method is particularly effective in eliminating shadows on small screws where an artist would find it practically impossible to opaque or white-out the background around the fine edges. There are many varied uses for this type of light box which will save your customer money on art—and to increase your value to him. ▲

## CLASSIFIED ADS

Position or help wanted, 10c per word, minimum \$1.50. All others 20c per word, minimum \$3.00. Box number, 25c service charge to cover handling plus 5 words. Cash with order. Closing date, first of the month preceding publication.

#### HELP WANTED

**Salesman — Photographic mounts.** Opportunity join national concern. Lucrative established territory. No objection sideline. Box NP 180, 125 W. 41 Street, NYC.

**Experienced saleswoman** who has had at least a year's experience with some high quality studio. Must be personable and under 45. Recent photograph and reference in first letter. Starting salary, \$350.00 per month. Maxwell Studio, 119 East Taylor, Hobbs, New Mexico.

**Salesman for the "Build-A-Book" line.** Can you qualify? Yes . . . the top selling album line is available, due to the readjusting of territories. The only album line with repeat orders guaranteed due to our exclusive patented metal hinge construction. Over 1000 different stock sizes and designs. Advise territory and years of coverage, also lines handled. General Products, 4525 North Lincoln Avenue, Chicago 25, Illinois.

**Photographer-portrait** to inspect negatives for studio chain and develop quality control. The man we want is probably a "retired" photographer or one who needs a sedentary 40-hour week. Fact, Inc., 1005 Olive St., St. Louis, Missouri.

#### SITUATIONS WANTED:

**Well qualified graduates of Brooks Institute,** fully trained in all phases of professional photography (still and motion), are available if contracts are made well in advance of graduation. Your employment inquiry will receive prompt attention. One or more of our selected students will correspond with you regarding your position. The demand for Brooks graduates is always greater than the supply. The earlier your request is received, the sooner the placement can be made. Brooks Institute of Photography, 2190 Alston Road, Santa Barbara, California.

**Commercial Photographer,** presently part-owner and manager of camera shop and studio in Michigan, desires permanent position in Midwest with progressive commercial or industrial studio. 15 years' experience in all phases of photography. Also have college degree in business administration. Complete resume of qualifications sent upon request, Box 1051, The National Photographer.

**Top quality colorist** for reliable photographers only. Marjie Tipton, 314 East 5th Street, Chillicothe, Ohio.

**Sales — Sales Promotion — Advertising.** An aggressive executive with top level experience in sales, advertising, distribution, photography and general business management available soon. Ten years as principal of advertising and sales consulting agency and studio. Seeking challenging position where background and abilities will be mutually beneficial. Will relocate — travel. Box 1154, The National Photographer.

#### STUDIOS FOR SALE

**Large size industrial, commercial and portrait studio,** located in up-state New York in a city with population of 100,000. For sale or to buy in. Terms can be arranged. Due to doctor's orders. For more information, write to Box 456, The National Photographer. Enterprise valued at approximately \$90,000.

**Profitable chain of twelve studios** located in fine eastern department stores. Terms. Principals only. Box 1153, The National Photographer.

**18-foot trailer photo studio,** ready to roll, complete with built-in camera stand, traverse drapes, backgrounds, posing bench, heating stove. In-



## REMBRANDT HOME PORTRAIT CAMERA

For quality Adjustments! For Precision Performance! For Terrific VALUE . . . There's no other camera like a Rembrandt. Praised the world over!

4x5" and 5x7" or split sizes  
**\$84.50**  
Camera only

FREE CATALOG — 132 Pages of Photo Equipment  
62nd ANNIVERSARY  
• Greatest Lens Offerings!  
• Cameras — Regular, Industrial and Scientific!  
• Enlargers — Solar etc.! • Light-ing etc.! • Accessories — Write to: NP 1159.



**BURKE & JAMES, INC.**  
321 S. Wabash Chicago 4, Illinois

## Wallet Photos 3c

Your Studio Name in Margin  
FREE! As per Our Price List

### COMPLETE PORTRAIT FINISHING

Under One Roof

Developing, 70mm developing and finishing, proofing, retouching, printing, enlarging, coloring heavy oils, heavy oil murals, copies, quantity prints.

PROMPT SERVICE GUARANTEED  
WRITE FOR PRICE LISTS TODAY

**Continental Laboratories, Inc.**  
770 State Street New Haven, Conn.  
Serving the Professional From Coast to Coast

### STATICmasters

ACCEPTED PHOTOGRAPHIC TOOLS

Proven the Best for removing static electricity, dust and lint from negatives, transparencies, lenses and records

1" Model  
\$4.95

3" Model  
\$9.95

Platinum Strip does the trick

Buy STATICMASTERS at  
Photographic or Hi-Fi dealers or order direct . . . sent postpaid, cash with order

STATICMASTER Record Brush for Cleaning  
Hi-Fi Records the Dry, Easy Way...\$14.95

**NUCLEAR PRODUCTS CO.**  
10173 E. Rush St., El Monte 5, Calif.

terior and exterior photos to interested parties. \$700.00. The Park Studio, 25 Sprenger, Buffalo, New York.

**Portrait and Commercial studio.** Good opportunity for man and wife, Ground floor, good location on busy street in fast growing city. Business established six years. Priced for quick sale at \$750.00. Price includes office, dressing room, studio room and darkroom equipment and fixtures; also all stock. Write Clairmont Studio, 1919 Taylor Avenue, Racine, Wisconsin.

**Studio, portrait and residence for man and wife.** Year round air-conditioning, Air Base, Army Installation, Headquarters 12th Air Force and large University. Excellent location. Should be seen to appreciate. Owner moving to South America. Write for further particulars, E. L. Humphreys, Box 171, Waco, Texas.

#### SERVICES

**"CANDID WEDDING FINISHING."** The Quality and Low Price will surprise you. Continental Laboratories, 770 State, New Haven, Conn.

**"OIL COLORING."** Transparent and Heavy Oils. Our Quality Shows. Continental Laboratories, 770 State, New Haven, Connecticut.

**"SCHOOL PHOTOGRAPHERS."** Complete School Finishing a specialty. Send resume and negatives for samples. Continental Laboratories, 770 State, New Haven, Connecticut.

**"PHOTOMURALS."** Custom Made for the Profession. Continental Laboratories, 770 State, New Haven, Connecticut.

**"PORTRAIT FINISHING."** Our Quality Shows, seeing is believing. Continental Laboratories, 770 State, New Haven, Connecticut.

Profits in quantity prints — if you don't work yourself to death! We'll make the prints — you make the profit. 8x10's as low as 75¢ — 1M cost only \$90. Post Cards as low as 25¢ — 1M cost only \$28. Service and quality guaranteed. Write for samples and complete price list. Special discount to photographers. Kier Photo Service, Department NPC, 1220 West Sixth Street, Cleveland, Ohio.

Airbrushing, retouching, photo restorations, copies, corrections, coloring. Kolor Kraft, 116 Frankland Road 17, or Post Office Box 8102, Rochester 17, New York.

**Best Professional Retouching, Etching and Services.** Satisfaction guaranteed. Please mail sample or negatives to Thomas M. Sellers, Post Office Box 1073, Johnson City, Tennessee.

**Marchion's Famous Wallet Photos.** "Known from Coast to Coast." Made from any size negative up to and including 5x7 negative only 35¢ each in lots of twelve or more. Complete finishing for the trade. Marchion Photo Service, 238 North Main, Fostoria, Ohio.

Printing, Coloring, Retouching. Reliable Portrait Finishing at lowest rates. Send for price list. Colonial Portrait Service, 346 Gregory Avenue, West Orange, New Jersey.

**Beattie 70mm Cameras for rent:** \$50 a month. Camera Lease Company, Box 12-N, Blue Hills, Hartford, Connecticut.

**Type C, Ektacolor, Kodacolor.** Custom finishing of highest quality at surprisingly low prices. Send for professional list. National Color Labs, 306 West First Avenue, Roselle, New Jersey.

**BIG BLOWUPS** when you want the best. Any size, shape or color. Send for price list. Dept. N., Al Greene & Associates, 1333 South Hope Street, Los Angeles 15, California.

An ideal art service. Transparent oil coloring, brush oils, portrait painting (free hand), pastels — finest professional artists. Send your prints or retouched negatives. Write for price list, sample offer. Kredensers Art Service, 1318 Beacon Street, Brookline, Massachusetts.

**Dollar color prints** in quantities of 50. Write for details about complete service. Deetjen Color, St. Joseph, Michigan.

**Finest retouching, etching and corrections.** Sample negative invited. School negatives only by permission. Anthony Aiello, 248 Hampstead Street, Methuen, Massachusetts.

**Professional Color Finishing** — Ektacolor, Kodacolor. Portrait Specialist. Write for information. Southwest Color Lab, 108 East Broadway, Anadarko, Oklahoma.

**Negative Retouching, Etching, Corrections.** Any size, 70mm incl. Fine imperceptible quality.



#### PORTRAIT NECKLINES!

Fit All Sizes, Many New Styles  
"Fine Portraits Deserve the Best"  
NEW PICT. CATALOG — FREE  
Complete Studio Costuming  
Maureen of Hollywood  
128 So. Alvarado, Dept. 7  
Los Angeles 57, Calif.

Stephanie Koshney, 760 Webster Road, Webster, New York.

**Expert oil coloring for the discriminating Studio and School photographer.** Guaranteed Quality — reasonably priced — reliable mail delivery. Lillian Hill, 812 Riverside Drive, New York 32, New York.

**Retouching.** Mail order service. Olga Wood, 841-E. 46 Street, Long Beach 7, California. Phone Garfield 3-8823.

**Coloring done by mail.** Send photo for sample. Julie Bland, 1065 Stine Lane, Kansas City, Kas.

**Airbrush coloring, quantity work only.** Save money and employment nuisances. Better coloring. Fast air service. Lowest price. Sun Studios, 949 Broadway, New York, New York.

**Negative Retouching.** Quality work, fast service. Send negative for free sample and price list. Marty's Retouching Service, 393 Birmingham Street, Bridgeport, Connecticut.

**Attention all studios that shoot senior portraits.** Wallet size prints made on double weight silk finish paper from any size negative, 4x5 or smaller, only 60¢ per dozen. Quality guaranteed. Send negative for free sample dozen prints. Mellers Photo Service, Box 777, Springfield, Mo.

**Oil coloring: light, heavy and brush oils.** Quality work. Grace Hudgens, Studio of Painting, Box 33, Petty, Texas.

#### MISCELLANEOUS

You can repair cameras. Now you or one of your employees can learn manufacturers' service methods without leaving your place of business. You can get complete training — with lesson texts, tools, test equipment — everything you need to learn camera craftsmanship in your spare time. Make your store a center for service. Write today for free illustrated booklet that tells how you can make this profitable service part of your own store. National Camera Repair School, Dept. NP-11, Englewood, Colorado.

**National Photographer Binders, \$2.85 postpaid.** One binder accommodates 12 copies; lies flat for easy access to any article in any issue. Order directly from PP of A, 152 W. Wisconsin Ave., Milwaukee 3, Wisconsin.

**Serious minded sales-photographer to buy into 35-year old photo and color post card business.** Complete stock and multilith imprinting equipment. Owner wishes to retire. Box 1151, The National Photographer.

**Specialty store with million dollar volume catering medium-to-better clientele,** would have attractive space for photograph studio concession. Accounts settled monthly. Write: L'Pells Inc., 2nd and Grace Street, Richmond, Virginia.

**For Sale** — One of largest and oldest postcard publishing businesses, photo and color, in the Middle West. Liberal credit arrangements to the right party. Box 1152, The National Photographer.

#### EQUIPMENT FOR SALE

**Stock reducing sale.** Long on merchandise. Short on space: 11x14 Century 8A studio outfit, camera, centennial stand, sliding carriage, three backs, \$300.00; 8x10 10A Century double bellows, same equipment, two backs, \$250.00; 8x10 Century No. 7, same equipment, \$200.00; 4A Century 4A Stand, same equipment, \$150.00. Crating charge of \$25.00 on above outfits. Graphic 4x5 View, 8" 7.7 Kodak Anastigmat Compur Synchro and case, \$155.00; 5x7 Mid-West View Camera and case, \$30.00; 5x7 Anasco View Mahogany, L.N., \$85.00; 8x10 Eastman 2D View, new bellows, \$110.00; 14" Goerz Zigor 7.7 black bbl. coated, \$200.00; 8 1/4" Verito f/4 fine soft focus, \$45.00; 2" f/3.5 imported lens, coated, \$12.50; 8x10 B&L-Tessar 4.5 black bbl., sharp portrait, \$100.00; 10" Heliar 4.5, one of the best, \$50.00; 4x5 Schneider Angulon, Compur Rapid, W. A., 6.8 \$45.00; 4x5 Omega D2 7 1/2" Ilex 4.5 extra 3 1/2"

condenser and 2" lens, \$200.00; 5x7 Korona Foto 70 roll back, L.N., \$100.00; Photogenic Boom Strobe, \$175.00; 8x10 Elwood Enlarger, new, \$353.00; new model D Kodak Print Straightener, \$300.00. This is a small part of our large stock of guaranteed new and used equipment. Send for our late flyer. We buy and exchange. Established forty years. Mid-West Photo Supply Company, 27 East Adams Street, Chicago 3, Illinois.

**Saltzman 8x10 Vertical enlarger,** two lamphouses, Cooper-Hewitt with electric shutter and incandescent 25 bulb for color, 20x24 easel, sacrifice to the highest bidder, plus freight; brand new 8x10 Kodak Master Camera, \$200.00; 5x7 Reducing back, \$30.00; 12" Goerz Dager f/6.8 No. 4 Acme Sync., \$235.00; Goerz Artar 10 1/2" f/9.5 Rapax Sync., \$175.00; 6 1/2" WA Goerz f/8 Rapax Sync., \$175.00. Camera Equipment used one time. Moving to South America, business must sell. P. O. Box 650, Waco, Texas.

**Eastman Kodak Model III B. W. Processor,** \$2500.00. Write 25 Park Avenue, Melbourne, Florida.

**Serving the public for over half a century.** Real bargains in fine quality lenses: 5 1/4" Wollensak Raptor f/4.7 in synchro shutter, \$65.00; 7" Wollensak Vestigmat f/4.5, \$40.00; 7 1/2" Kodak Anastigmat f/4.5 in Universal shutter, \$55.00; 8 1/2" Turner Reich triple convertible f/6.8 Acme shutter, \$85.00; 8 1/4" Goerz Double Anastigmat Ser. III f/6.8 compound shutter, \$80.00; 12" Goerz Dager f/6.8 l.n., \$150.00; 16" f/8 R. R. lens, \$25.00; 18" f/8 R. R. lens, \$35.00; 12" Schneider Radionar f/6.3, \$100.00; 16" Goerz Hypar f/4.5, \$140.00; 16 1/2" Ross Xpress f/4.5, \$140.00; 16 1/2" Goerz Celor f/5.5, \$120.00; 19" Goerz Celor f/5.5, \$145.00. Hundreds more. State requirements. Lenses sent on trial basis, money refunded if unsatisfactory. Joseph Smith, 735 Fulton Street, Brooklyn 17, New York.

**One 5" Hyran Paper Processor,** Slightly used. \$1500.00. Box 1155, The National Photographer.

**Space program needs 16/35mm movie and microfilm processing.** Solicit Aircraft, Rocket, Missile Plants, Industrial concerns. Also Identification Services, Sports, TV Stations, Hospitals and Educational. Bridgematic does Reversal, Negative/Positive, Color, Microfilm, automatically. Many models, priced from \$124.00 S.O.S. Cinema Supply, 602 West 52nd Street, New York 19, New York. Department 2c.

**For Sale: 14" Veritar CTD f/6,** new condition; Densichron model I; Beseler 4x5 condenser enlarger, motor operated and voltage regulator. Charles H. Tipple, Oneonta, New York.

#### EQUIPMENT WANTED

**Beattie Portronic Camera Model A-162** used with 35mm magazine. Will buy extra 35mm magazine. Detore Photo Service, 94 Church Street, Burlington, Vermont.

#### SALES AIDS

**"More Money Selling Portraits"** — The guide for professional photographers who wish to increase their gross with tested promotion and sales ideas. Only \$7.50 per copy (plus 20¢ for postage). All proceeds will be applied against the indebtedness of the new Winona auditorium. Order your copy from The Winona School Alumni Assn., Inc., Virginia Stern, President, 1122 Grand Ave., Kansas City 6, Missouri.

**Credit forms.** Complete system for photographers with name imprinted. Write for samples and prices. The Hi-Mark Company, 5463 Virginia Avenue, Los Angeles, California.

**Photomounts** — Inexpensive. Direct from manufacturer, 3x5, \$4.00 per 100; 5x7, \$6.00 per 100; 8x10, \$12.00 per 100. In lots of 100. Free samples and new price list to professional photographers. Penn Photomounts, Glenolden, Pennsylvania.

**Photomounts:** Send \$2.00 large assortment Folders, Easels, Wedding Albums. Wholesale price lists. Robin Mounts, 345-D West 23rd, New York.

**Albums!** Wedding, Commercial. Photographer and customer's name in gold. Mounts. Sales aids. Free catalog! Crestwood, 3601 West 71st, Kansas City, Missouri.

**Professional Photomounts and albums.** Better quality. Low prices. Free catalog. Harvard Photomount, Box 72, Cambridge 40, Mass.

**Bridal Bouquets** for portraits. Roses, carnations, orchids. Colonial, \$6.95; Cascade, \$7.95; Bible, \$5.95. Ruth Stephenson, 1470 Summit, East St. Louis, Illinois.

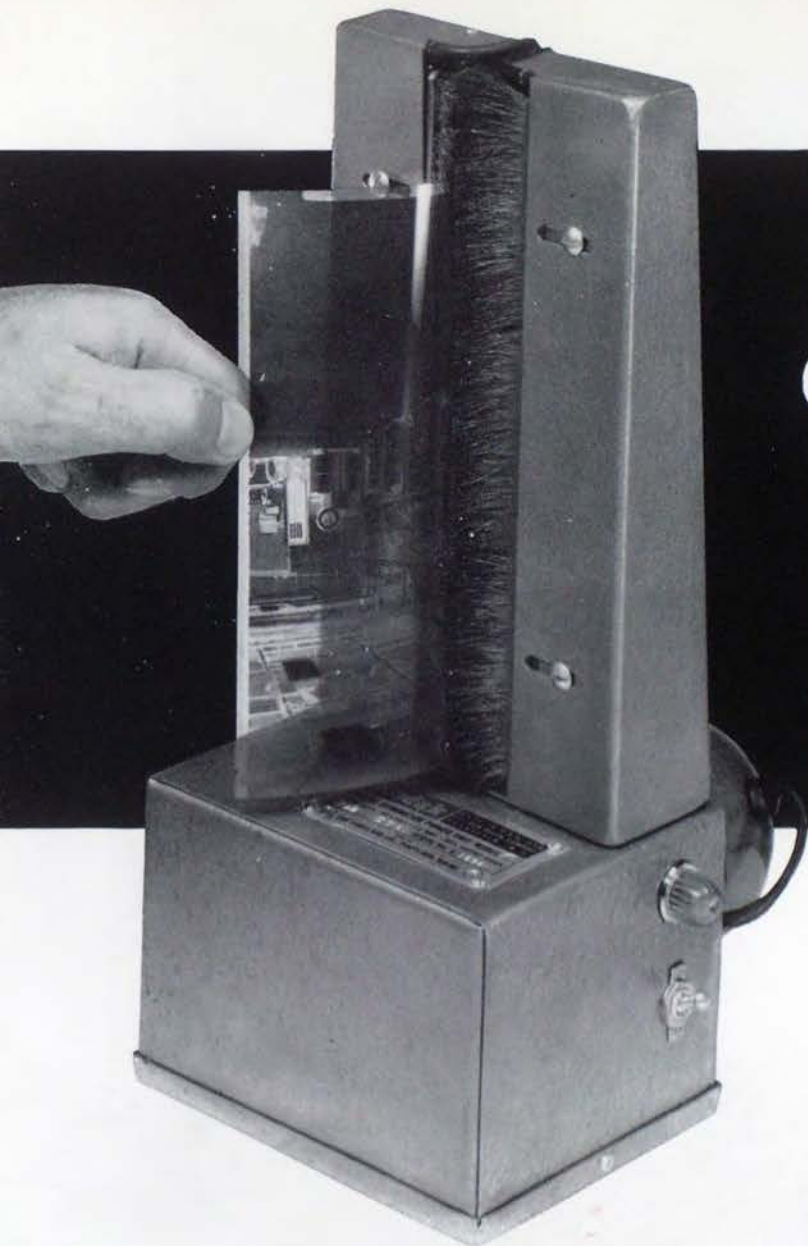
## "HOME PORTRAIT" PHOTOGRAPHERS 12 5x7's INCLUDING DEVELOPMENT OF FILM \$6.00

NOW GUARANTEED:

**HAUSER COLOR LAB**  
400 SOUTH 74TH STREET  
MILWAUKEE 14, WISCONSIN

1. A sales kit that will sell color candids or your money back. 5x7 or 8x10 'KIT' \$15.00.
2. Information, given best by calling us, that will give you the very best quality in color. QUALITY now guaranteed by our new process or money refunded. Service, because of our volume, about 10 days.
3. Send one negative and \$1.00 for one 8x10 sample of our work. Negative should be of bride and groom.
4. 48 8x10's for \$50.00, 48 5x7's \$35.00 (from 6 rolls or less). Call us or we will give you correct information and prices by return mail. Single negative: 5x7 — \$8.5, 8x10 — \$1.50.
5. Prints from 4x5 negative \$3.00 each. Quality to equal any lab. Best for commercial photographer.
6. The first photographer in your city to "GO COLOR" will have the best reputation and profits.

CALL 6:00 P.M. TO 9:00 P.M. MILWAUKEE TIME — GREENFIELD 6-9315 PERSON TO PERSON — MONEY REFUNDED ON FIRST ORDER



# SWISH!

IT'S CLEAN

*Dust vanishes! to  
reduce your  
print-spotting cost*

Whisk your negative through this new Kodak Static Eliminator before you print, and you'll save the spotting time that dust ordinarily costs you.

Also cleans dust off your printing frame glass, transparencies, slide cover glass, filters.

Cleans by neutralizing any static electrical charge so that dust won't cling. Double 10-inch camel's-hair brushes plus air pressure whisk the dust off and away completely.

An auxiliary connection on the power unit permits use of a Kodak 2-inch static eliminator brush or if compressed air is available, a Kodak 2-inch Brush with Air Valve.

Don't waste any more time spotting dust-marked prints. Get rid of the dust in the first place. Pocket the savings. Why wait? See your Kodak dealer now.



*IS YOURS A SMALL STUDIO?* Perhaps all you need is this single Inductor Tube-Brush model of the new Kodak Static Eliminator. Removes static electricity like the larger instrument. Hand brush cleans dust off and away.

If you have a compressed air source, you may further speed the cleaning. Just use the Kodak 2-inch Brush with Air Valve.

Want more information? Address an inquiry to Professional Apparatus Sales Division

**EASTMAN KODAK COMPANY, Rochester 4, N. Y.**

**Kodak**  
TRADEMARK

\$50

\$70

\$90

\$110



Portrait by Robert L. Ball, M. Photog., Corvallis, Oregon. Reproduced from a print on Kodak Ektacolor Paper.

### *which price means more profit?*

A photographer we know thought about this . . . then went ahead and increased sales dollars without increasing sales effort.

The easiest way to increase sales volume, he thought, would be to convert black-and-white prospects into color buyers.

*And that's exactly what he did.*

He priced his color portraits at a customer-

tempting level which few prospects could resist. The extra money they spent for a color portrait almost doubled his profit dollars per sale. Yet his work load did not greatly increase.

**Which price means more profit?** It's the color price that converts customers to color—the price made possible by modern Kodak Ektacolor Film and Kodak Ektacolor Paper.

**Kodak**  
TRADE MARK

EASTMAN KODAK COMPANY

Rochester 4, N. Y.