

Leiss

MAGAZINE

APRIL, 1938



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CENTS
VOL. IV
No. 4



FIRST PRIZE
Through Four Generations
 JOE WIENER

Zeiss Ikon Monthly Competition

The first prize this month is awarded to Joe Wiener for his picture, *Through Four Generations*, enlarged from a negative exposed in his SUPER IKONTA B fitted with a ZEISS TESSAR F:2.8 80 mm Lens. An orange G-4 filter was used to darken the sky with an exposure of 1/25th second at F:11. Our first impression of this blue-toned print is its excellent photographic quality. Also, Mr. Wiener has made a very good choice of camera angle in portraying this old homestead. We can easily imagine the two trees in the foreground as guardians of the old building, while from the point of view of composition they give a very appropriate framing to the whole picture with their branches adding an

interesting pattern to the sky. The curving ruts in the snow give a touch of charm and gracefulness, always pleasing in a landscape picture, and they help to lead the eye directly to the house, the center of interest. The old house itself has a sturdy, weatherbeaten appearance, and we can easily visualize that it has been the cradle of four sturdy generations.

C. Elmer Black wins second prize with his picture, *Homeward Bound*, enlarged from a CONTAX negative, the lens being the TESSAR F:2.8 50 mm with an exposure of 1/50th second at F:5.6 at 7:00 p.m. in September. In this one picture we find all the moods associated with the close of (*Please turn to page 93*)

SECOND PRIZE

Homeward Bound

C. ELMER BLACK



THIRD PRIZE

On The Bowery

MAXWELL FREDERIC COPLAN





E. H. PICKERING

THIS MONTH

... the Fourth Annual Exhibition will be shown at the Biltmore Hotel in Los Angeles from the twentieth to the twenty-third and the St. Francis Hotel in San Francisco from the twenty-seventh to the thirtieth, both dates inclusive. The exhibition will be open to the public at each place, free of charge, from 10 a.m. to 9 p.m. with the exception of Saturdays when the hours are from 10 a.m. to 5:30 p.m.

... we are indebted to Dever Timmons, A.R.P.S., F.R.S.A., for our excellent and timely cover picture, ARLENE. The print from which this picture was reproduced is one of a set of fifty, selected from among Mr. Timmons' world-famous exhibition prints, now being assembled as a one-man show for exhibition before camera clubs and art museums. This show will be of especial interest on account of the fact that Mr. Timmons has been the leading salon exhibitor of the world for the last two years, having hung more prints in recognized salons throughout the world during that time than any other exhibitor. Those desiring to exhibit this one-man show in their community can secure further information concerning it by writing to us at 485 Fifth Avenue, New York, N. Y. In writing, please state the commencement, the length of time for exhibition, and the quantity of catalogs needed. In addition, give the name of the sponsoring organization, the place of hanging, and the hours and days it will be open to the general public.

... and every month your ZEISS IKON Camera will continue to operate with the ease and precision for which ZEISS IKON products are noted, provided you give it the same ordinary attention that would be given any fine precision instrument. Ahead of us are the months in which most cameras receive their greatest use. Now is the time to ask your Zeiss Dealer to return your camera to us for an inspection and cleaning.

ZEISS MAGAZINE

Devoted to Zeiss Ikon Photography

VOLUME IV

NUMBER FOUR

APRIL, 1938

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Edited by Fenwick G. Small

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PAT TERRY

CONTAX II *with* ZEISS BIOTAR F:2 40 mm Lens; exposure of 1/50th second at F:2.8
Article by Pat Terry — *Think Before You Shoot* — commences on page 90



Cloud Mass

JACK POWELL

Silver Grains

JACK POWELL

A GROUP of Finegrainiacs were in a huddle discussing the merits of their pet fine-grain formulae. Sali held high discourse on the sparkling negatives produced by a Famous 15 developer. "Gorgeous half-tones, rich velvety shadows, and highlights that fairly pop out of the negative." Asked to show some examples of prints made from these magical negatives, we were rewarded with a blank look. "Pictures, why I hadn't thought anything about making pictures, but Oh boy, you ought to see the negatives."

With a gentle sweep of his arm, Jim brushed Sali aside while he proudly flourished a strip of film in

front of our faces. "If you want to see some real negatives, just take a look at these. I developed them in my own secret formula; and say, talk about fine-grain, this has got them all beat. I'll make up some pictures one of these days, just to show you what they look like."

His oration was cut short by Mr. Jones; "You fellows don't know anything about fine grain. You want to see the stuff that I've got. Want to see something interesting?—then just take a look at this. Brown and I made it, and you know that Brown knows his stuff." And with that Mr. Jones placed a number of four by five prints on the table and looked at us with condes-

ending pity. "Now these are some test shots I made of some water fowl; just look how sharp they are, and tell me, do you see any grain?"

Negatives. Countless numbers of them. Miles upon miles; negatives with grain, some without, and others ultra-grainless. All processed in some cherished or newly discovered formula. Every time a new developer appears on the market a wild rush is made by owners of miniature cameras to obtain some and "try it out." The merits and demerits of each is thoroughly thrashed out at the camera club or over the counter of the photo shop.

Why do not these gentlemen . . . and ladies also . . . cease in their eager quest for fine grain this and fine grain that, and turn some of their efforts to producing pictures? A gentleman, whose name I shall not mention, recently returned from a three month's tour of old Mexico. He took with him on his trip two hundred feet of film and a *CONTAX II* with a battery of lenses. Dropping into the school after his return, he proudly displayed six or seven albums loaded with exposed and developed miniature films. They were the negatives he had made on his Mexican tour. Out of a possible thousand shots he displayed two eight-by-ten prints made on glossy paper. Rather curious, I glanced through a number of his negatives. The treasures that man had garnered made me weep! And yet two prints were all that he could see. He, too, was proud of the great number of pictures he had taken and " - - would some day look through them and see if he could find anything else to print."

Owning a fine camera for the sake of possessing it may be excused on the grounds that it is a beautiful instrument to fondle and show to friends. But when one stops to consider the marvelous possibilities latent in that expensive "toy" there should be food for serious thought. This article is not written with the intention of setting forth the merits of any particular camera; it is merely intended to be a cry against the many camera owners who take pictures but neglect to print them.

Personally, I prefer, and use, *CONTAX II*, equipped with a *ZEISS TESSAR F:2.8 50 mm* Lens for general use, and an *85 mm F:2 SONNAR* for close-up and portrait work. I find that this combination fills my needs admirably.

Being an instructor of photography and operating a private school I am in a position where men and women in all walks of life come to me with their photographic problems and discoveries. The search for the perfect fine-grain formula seems to be the outstanding ambition of the majority of miniature camera owners. Next in importance is the choice of a camera. It sounds strange, but it is an actual fact that many a prospective purchaser will seek out and delve into the



Persian Tapestry

JACK POWELL

intricacies of fine grain and its formulae before deciding on the camera he desires. Having been handed, through secret diplomatic channels, a very private formula on how to secure the finest of fine grain, the recipient promptly hurries downtown and purchases a camera to fit the formula!

So far, so good. Now if this party would take time off to read the instruction booklet accompanying the camera he would, no doubt, succeed in getting some fairly decent negatives. Mind, what I say is an actual fact, for it happens every day here at the school. I doubt if nine out of ten read the instructions on how to manipulate a camera, what care to use in its handling, its various outstanding features, and so on.

Recently, a gentleman with an amplitude of surplus finance, brought in a Number II and a Number III *CONTAX*, equipped with *SONNAR* Lenses. Both cameras are beautifully made and should be handled with care and understanding. Our scientific bug, Mr. Jones, happened to be around at the time, and with a yawp of glee he pounced on the instruments. "I'll soon tell whether these cameras are properly adjusted!" he exclaimed, and hauled out his screw driver and pliers.

The cameras, of course, were returned to the *ZEISS*



Old Lime Mill

JACK POWELL

present generation, cannot afford to condone such procedures.

There are simplified methods of making correct exposures and it is up to us to apply these methods to our needs. Each emulsion has a definite speed rating, and by using an exposure meter, in connection with a knowledge of the film speed, correct exposures can be made.

Returning to our lament: The excuse is often given that pictures are not printed because no knowledge is possessed for such procedure; or perhaps there is a

office next day for repairs necessitated by this treatment.

When purchasing a CONTAX, or any camera, size and make being irrelevant, learn how to use it properly. Get acquainted with your picture-taking instrument. Read up on the instructions, and then, if still in doubt, go to the shop you made the purchase from and they will be only too glad to give you the required information. If anything goes wrong with your outfit, don't make a rush for your auto repair kit and start tearing things apart. Some of the greatest scientific brains have designed and put the miniature together: men who have devoted years of study in expensively appointed laboratories. If your local dealer cannot do the necessary repairs, these same men will be more than willing to devote their time and services to you.

Master the proper manipulations of your camera, and you will have less trouble with your picture making.

Assuming that the intricacies of the camera have been solved, it is next advisable to learn the uses of the different types of film. There are films available that will photograph reds, others that are practically blind to red, but quite sensitive to yellow-greens. Then there are negative emulsions so highly sensitive, or rapid, that passable pictures may be made by candle-light only, while others are so slow that nothing short of a tripod and time exposure will produce an image. And in between all these are many films, with varying emulsion speeds and color sensitivity.

The old time photographer, with his fingernails stained black with pyro, says he doesn't have to bother understanding the peculiarities of different films. Whenever he wants to make a picture he takes his fast film, focusses the camera, and—"bang," he's got the picture. No doubt the old timer, with his years of experience, knows exactly what he is doing. But you and I, of the

lack of proper facilities and equipment. For those who do not care to do their own finishing, the work may be done by photographic finishing houses. The work turned out by these commercial plants, are, on the whole, quite commendable. But it must not be expected that such places can give individual attention to each negative. The best they can do is to develop to a standard density by means of time and temperature.

To bring out all that is in a negative it should be processed by the person who took the picture. How much of the real joy of photography is missed by having the work done outside! To those who claim a lack of knowledge as regards negative processing and print making it is suggested that a fraction of the cost of their camera equipment be invested in studying under some competent instructor of photography. The result will be more gratifying, both in regards to the ability to produce and the eventual savings in materials which would otherwise have resulted in needless loss because of the lack of proper knowledge.

Let us make a belated New Year's resolution and turn over a new leaf by saying "Every picture that is worth while taking is worth while finishing."

There are pictures all around us, begging to be taken. Cultivate observation. There may be an *Old Lime Mill* seen on the road side, or a storm breaking a mass of clouds which crown a mountain peak. Or, drifting into a romantic mood, you may bring to life a *Persian Tapestry*. Possibly an æsthetic whim seizes you, and a dream girl emerges with her mirror.

Our daily lives are steeped in pictorial possibilities; we have only to become aware of them—open our eyes to them. It is not necessary to go off the beaten path in search of suitable subject matter. Beauty exists even in the commonplace. (Please turn to page 95)

The Story Behind The Picture

EDWARD ALENIUS, F.R.P.S.

CENTRAL PARK in New York is a heavenly hunting ground for the pictorial photographer. Although thousands of pictures have been made of this fascinating section, I believe that entirely new views can be found there. Ten years ago, when I first looked at the Park with my newly-trained, pictorialist eyes, I saw it had unlimited possibilities. Since then I have made a number of pictures there—day shots as well as night scenes—and several have been reproduced in different parts of the world.

The very first one, taken on a foggy summer day in 1929, has been accepted in 103 exhibitions. At that time I visualized the possibility of a winter scene of Central Park Lake, frozen over, with perhaps a winding stretch in the ice left open with flowing water. One Sunday in January, 1936, I discovered the right condition for such a picture and prayed for continued cold weather. A light snow fell that night, while on Monday the temperature fell rapidly. By eight o'clock that night it was ten below zero, and I spent a few of the most miserable moments of my life in the Park.

Neither the mirror nor the ground glass of my MIROFLEX were of any help as the night happened to be much darker than usual. With fingers numbed, I set up the camera on the tripod; then with the aid of the wire-frame view finder—invaluable under those circumstances—I composed the picture as nearly correct as possible. To obviate any possibility of accident, I kept the shutter open and made the exposure by pulling out the dark slide.

It had been my intention to make a half-dozen exposures, but during the three minutes at F:4.5 required for the first, I became convinced that I would be very fortunate to be able to survive after only one exposure. In spite of the most vigorous jumping about, running, and wild acrobatics, I nearly succumbed to the extreme cold.

When the three minutes had elapsed, I could think of only one course to follow—close the shutter, grab my paraphernalia without disassembling it, and run at a mile-a-minute gait to the warm atmosphere of the nearest restaurant. After a complete thawing out, I still wanted to return to the park for the five additional planned exposures. However, on opening the door to the restaurant and feeling the biting zero weather, I lost my courage and abandoned the idea.

On arriving home, I was so anxious to develop the film that I immediately proceeded to do so in spite of the late hour. To my surprise, I found on the negative

a number of clear spots on the area representing the little opening in the ice; in printing these clear spots turned out to be several ducks resting complacently on the wintry water. They had been completely invisible in the dark, as were all the other details.

As I purposely developed the negative thin, quite contrasty paper is required to give the picture the right brilliancy. During the pulling of the dark slide in making the exposure, the camera was moved a trifle, resulting in a double exposure of the window lights appearing on the negative, but this was easily retouched on the print.

The clearly visible details in the snow of the foreground make the picture look like a daylight exposure. One magazine critic remarked that it was probably a double exposure—a shorter one in daylight and a much longer one at night with the camera in the same position for both exposures. Another critic doubted that there ever are lights in those buildings after office hours. Still a third claimed that to him there is nothing pictorial in a picture of this type, merely a jumble of light spots without any sense of composition. On the other hand, this picture has been rejected seldom and has won several honors, one being a three-inch gold medal from Belgium which weighed half a pound. This shows that no picture will satisfy every pictorial critic or judge.

I must say that the MIROFLEX Camera proved ideal for almost every type of photography, as witness my various MIROFLEX pictures consisting of landscapes, still lifes, nudes, etc. I came into possession of this camera several years ago when I had the opportunity of exchanging my English reflex for it. Even before I made use of this camera, I admired it for its neatness of construction and its precision, for which all ZEISS IKON Cameras are noted.

I probably would still be using the MIROFLEX if it had not been that the camera was later ruined by a sad mishap. It happened at the photographing of a nude model. The camera was all set, and we were just correcting the pose when my friend unfortunately knocked over the tripod—and that was the end of my MIROFLEX. There is no way of interchanging lenses for this camera with any degree of ease—its only shortcoming—otherwise I should have secured a new one at that time. Such, of course, is not the case with the ZEISS IKON JUWEL, and for that reason, as well as some greater facility in adjustments, I think the latter is superior to other cameras. (*Please turn to page 94.*)



Winter Night, Central Park

EDWARD ALENIUS, F.R.P.S.

MIRROFLEX with ZEISS TESSAR F:4.5 15 cm; exposure 3 seconds at F:4.5

Flashlight Photography

HERBERT C. MCKAY, F.R.P.S.

(Continued from the March Issue)

VERY MANY years ago, about ten to be exact, flashlight was synonymous with danger. Young photographers were warned against the fire-spray of damp powder, newspaper men were injured almost weekly, and homes throughout the land were being filled with dense clouds of choking fumes, to say nothing of the fine, clinging "snow" which settled thickly over the furniture.

While these unpleasant phases of photography were accepted as a quite necessary evil, steps were being taken to eliminate them. The first step was a small glass bulb containing a small quantity of flash powder. These bulbs were fired by an external electric current, but they were erratic in functioning and far from uniform in output—also were prohibitively priced. Still they foreshadowed coming events.

During this period Dr. Johann B. Ostermeier, a German physicist was working upon an idea which was a logical development of his own earlier experience. It is remarkable that practically every one of us has seen the great-grandfather of today's flash bulb without realizing the relationship.

One of the first things the high-school student learns in science is that oxygen supports combustion. One of the memories which persist almost throughout life is the proof of that statement as demonstrated.

There was a foot or so of steel tape, usually a piece of broken main spring from a watch. We regarded this steel as the typical symbol of unchanging strength; yet we saw the end of the steel heated and dipped into sulphur; we saw that sulphur ignited; and while slowly burning, the sulphur tipped steel was thrust into a flask of oxygen. Immediately the solid steel burned fiercely, throwing a shower of sparks about, filling the bottle with living fire! We learned that it was no trick to burn a comparatively heavy, hard steel tape, if you went about it right.

It is true that a magnesium tape will burn similarly in normal atmosphere, and there are others of the lighter metals which burn more or less readily, some of them spontaneously.

Dr. Ostermeier conceived the idea of enclosing very thin metallic foil inside a hermetically sealed glass bulb in an atmosphere of low pressure oxygen, and then igniting the metal by means of an internal, elec-

trically operated fuse which, of course, flashes the foil.

Obviously an inflammable metal, in thin foil or fine wire form, bathed in pure, dry oxygen, and then ignited can do just one thing—burn; burn with extreme speed and high intensity. The photoflash bulb was born!

But this was the infant, there was much more to be done before it was ready to assume its full place in the photographic world.

Photography is an activity of precision. Even the most careless amateur plays with units and quantities which are almost beyond comprehension. In time we work with milli-seconds. In physical dimensions our yardstick is the micron, of which roughly twenty-five thousand are required to cover an inch. In much of our work we deal with materials which have been given certain characteristics by the addition of a single drop of solution in a hundred gallons of mixture. Photographers are indeed jugglers of the infinitesimal.

Before the flash bulb could become even partially practical, it had to be made uniform; there had to be some unit of performance, some degree of efficiency established so that the photographer could use them with success. This completely ignores synchronization, which we shall discuss later. The mere production of a workable bulb was a man sized problem.

The first bulb to appear commercially was the No. 20 foil bulb, introduced September 1, 1930. This was followed by the smaller No. 10 just three years later. One month after the "baby" came the "giant," No. 75; the family was now well established. All of these are more or less similar in physical makeup, so let us give a brief glance at the method of manufacture.

The flare, the exhaust tube and the lead wires are placed in a special machine. The upper end of the flare is softened and pressed tightly about the lead wires. This then becomes the "stem" which rises inside the bulb and carries the igniter filament. The glass, softened by heat, makes a seal around the lead wires. These wires are of a special alloy which has the same coefficient of expansion as glass so that there will be no leakage developed during cooling. One of these lead wires is smaller than the other. The fine lead forms a fuse which will blow out if excessive current is developed within the bulb when igniting with 115 volts (by direct wiring connection).

The tungsten filament is attached to the lead wires,

and these are clamped over the tungsten to hold the latter securely in place. The end of this mount is then dipped into the priming solution, which is semi-liquid. When it is withdrawn the priming material forms a bead upon the filament, just as paint would form into a drop under similar conditions. The bead is later given a coat of lacquer to prevent it from breaking or crumbling. At the instant of ignition, the heat of the tungsten filament fires the primer which burns violently, throwing sparks into all parts of the foil, starting ignition in several places at once.

This completed mount is placed in a sealing machine and a foil filled bulb is placed over it. The neck of this bulb is then sealed to the edges of the flare and the bulb proper is done—but not completed!

The exhaust tube is still connected with the interior of the bulb; which is filled with ordinary atmospheric air at the existing pressure. The air is exhausted from the bulb, and then pure, dry oxygen is run into the bulb to a pressure approximately two-thirds normal atmospheric. The exhaust tube is then sealed off in a gas flame and the oxygen filled bulb is sealed.

The bulb is then seated in the base, the two lead wires soldered to the base, and the bulb is ready for testing.

Of course, during manufacture the lead wires might become shorted, and the igniting current would flow through without firing the bulb; or the filament might be broken, in which case no igniting current could flow. Therefore the bulbs are tested for resistance of the filament and for continuity of the filament circuit. They are placed in reserve for several days and then tested for air leakage. This test is made by the use of a high frequency discharge which produces a colored glow inside bulbs which have developed an air leakage.

It might be added that the foil used is *not* obtained by salvaging cigarette packages! It is a special foil, so thin that about 175 sheets would have to be stacked to equal the thickness of an ordinary sheet of newspaper! The actual measurement is from 0.000013 to 0.000018 inch!

As to the performance of the bulb, a few figures concerning the No. 20 may be of interest.



The Fulton G.

JOHN K. ZIELINSKY

About 90% of the light given off is emitted during an interval of 1/50 second.

The lamp flashes about 0.017 second after the current is applied, peak of flash 0.02 second after current application.

The lamp provides 45,000 lumen seconds, with a peak of four million lumens.

We might pause to define the lumen, as it is a unit of great importance to the experimental photographer—and familiarity with it will make flash bulb specification reading much easier.

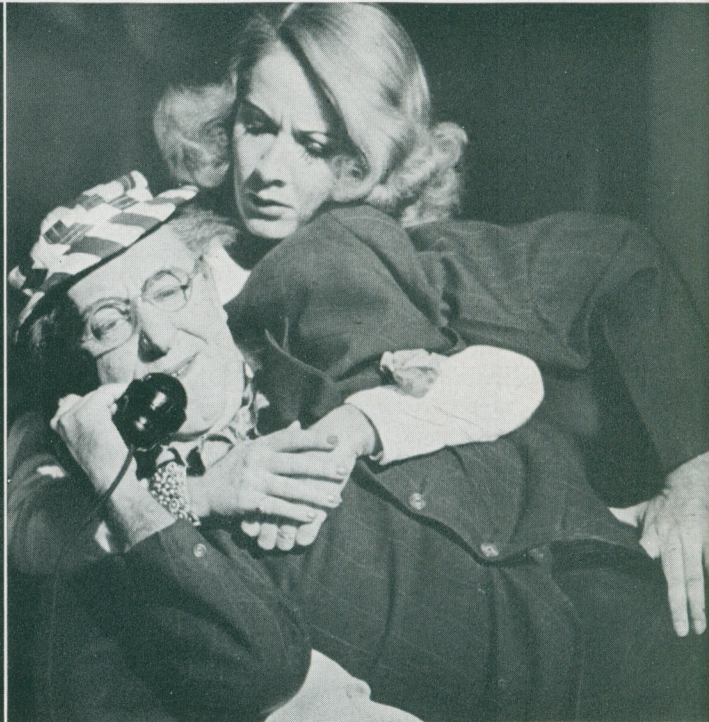
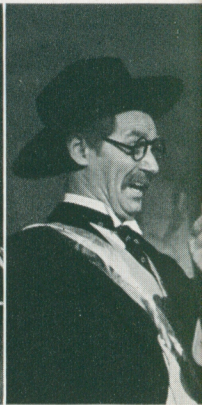
Light is usually measured as the total given off by a luminous point and extending in all directions. That is, a hollow sphere with a luminous point at its center would be evenly illuminated throughout.

If the sphere is divided into segments equal in area to the radius squared, such segments are known as "steradians." The light falling upon the area of one steradian from a source of one candle intensity has a value of one lumen.

It follows that the one candle source emits a total of 4×3.1416 lumens, or 12.5664 lumens.

(To our great regret Mr. McKay has been compelled to shorten his interesting article on the characteristics of flash bulbs because of unavoidable delay in securing important data. He tells us that the necessary information is now almost all prepared and will be included next month with the continuance of this portion of his series on flashlight photography.—Editor.)

Ed Wynn in "Hooray for



Photographed with **CONTAX** ZEISS SONNAR

What " photographs by BOB GOLBY



The Possibilities of Distortion

A. MOLIND

DISTORTED photographs have been found useful in advertising nationally-known products. They have been used very effectively in the advertisements of headache medicines, liquor, corn cures, and certain other products. The distortion lends itself well for this purpose and makes a very effective presentation. Not much further copy is necessary for a headache remedy than its name and the picture of the "big" head which is so attention-arresting. But it is not necessary that distortion be limited to these uses, for with the proper study pictorial applications can be made of it.

In the pictorial use of distortion, great care must be taken in selecting the subject matter. There are many subjects that at first glance may not seem suited for distortion, but after some study and arranging they can be made into amusing bits of caricature. In a sense, distortion must be regarded as caricature, being used to heighten certain characteristics of a subject. For instance, *The Laughing Clown* laughs so much harder

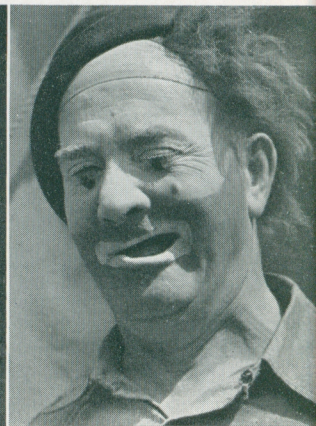
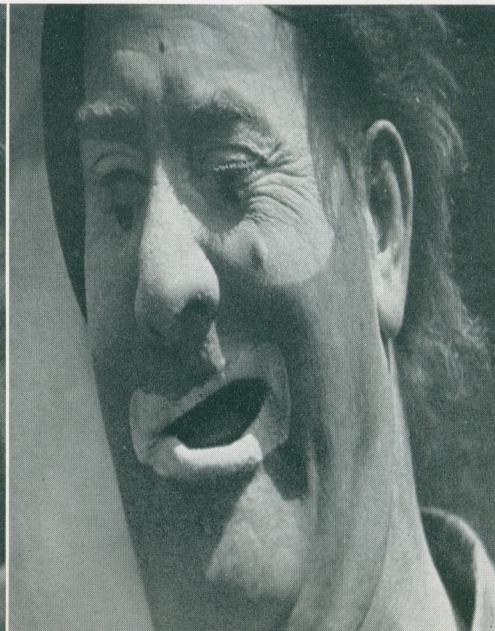
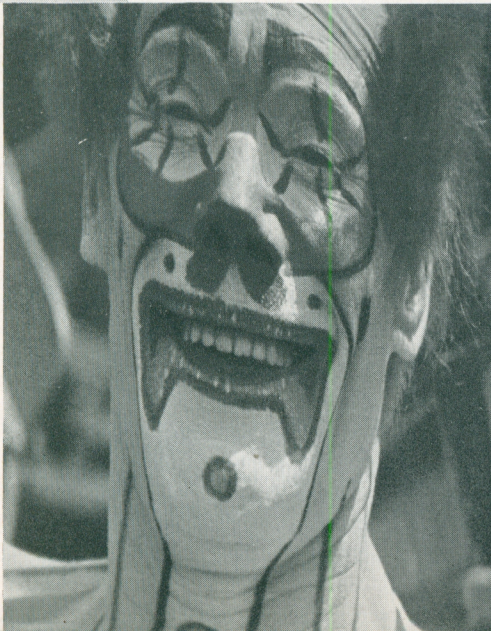


All photographs
by
A. MOLIND
with
CONTAX

LEFT: *Laughing Clown*. Below: Reproduction of a print made from the same negative. The laughter is emphasized by the distortion, making the distorted print even more forceful than the straight one. The distorted print was made by placing the easel at an angle of about 45° to the optical axis of the enlarger lens and swinging it slightly to the right.

BELOW TO RIGHT: *Ob Yeab!* The distorted picture from the same negative as the small picture to the right exaggerates the twist of the mouth and gives this character an amusingly hard-boiled appearance. The easel was tilted at an angle of about 60° to the optical axis of the enlarger lens and swung to the left.

FACING PAGE, LOWER ROW: *Thinking Clown*. At the left is reproduction of straight print from the negative and to the right of it a variety of distortions from the same negative. Some were made by placing the easel at various angles to the optical axis of the enlarger lens and others by curving the paper while on the easel.



when the face is narrowed. For the all-important subject matter it will be found that a straight shot of a jackass, giraffe, tiger, or monkey can be used to make most interesting distortions. Circus characters, especially clowns, are very fascinating subjects for our purpose. Most good clowns are very expressive in their make-up and offer excellent subject material for our interpretation. One who is alert will find any number of suitable subjects in addition to those suggested here.

When you have a good negative of an appropriate

subject, many interesting prints showing a variety of distortions can be made, and these distorted prints may be infinitely more satisfactory than the straight print. It is not necessary to use concave or convex mirrors or special lenses to obtain the desired results as some may have thought; you need only "play" with the printing paper while enlarging. But let's begin from the beginning. Place the negative in your projector as you would ordinarily. Then place a piece of white paper the same size as your sensitized printing paper on the easel. Raise the projection head of the enlarger to the desired height. After focusing the image on the blank white paper, proceed to tilt the board one way or another until you obtain the desired effect. While you are raising the board up and down and studying the effect, try twisting it around so as to see the effect of a different cropping. Occasionally it may be found necessary to move the projection head up or down and refocus in order to secure a different image size. Ord-

inarily it will be necessary to refocus before stopping the lens down when you have arrived at the desired composition and distortion. Generally you will have to arrive at a compromise in your focusing even after stopping the lens down. There will be some diffusion in parts of your picture, but sharpness here and there must be sacrificed for the big effect. Strictly speaking, this is not a sacrifice since it is usually consistent with the whole picture scheme. Greater difficulty in focusing may occur with the larger-negative sizes, but I have not found much difficulty with my 50 mm CONTAX Lens in the MAGNIPHOT Enlarger.

You are now ready to place the sensitized paper on the easel to proceed with the printing. Place a light red filter over the enlarger lens and turn on the light so that you can study the image further, for even greater distortion can be obtained by curling portions of the paper in a more or less concave or convex manner. In printing you will (*Please turn to page 95*)



Tired Clown

The Law





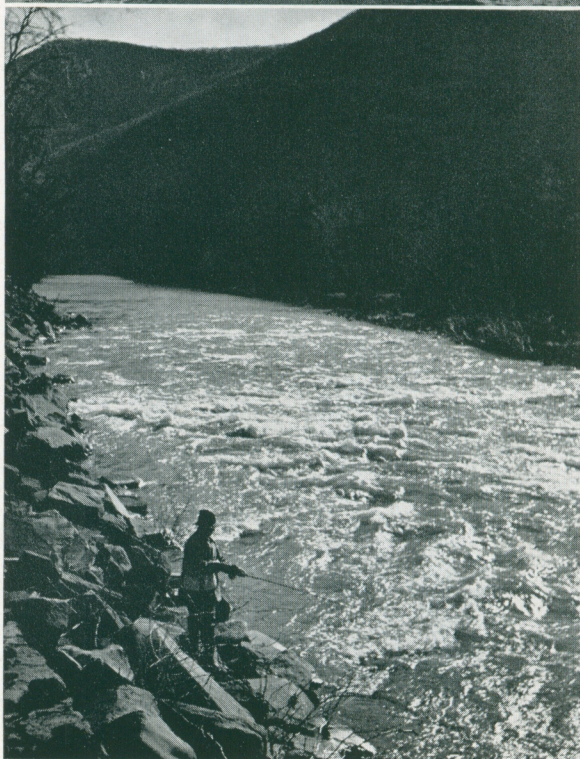
How To Use Quinotol

LE ROY ROSELIEVE*

QUINOTOL is the result of several months research to produce a developing agent with some qualifications not found in other developing agents. It may be used for all purposes, but will be found extremely useful and advantageous in the developing of printing papers. It is a slight variation of Chlorhydroquinone — Mono-chlor-para-di-hydroxy-benzene expressed by the chemist as $\text{Cl.C}_6\text{H}_3.(\text{OH})_2$ —in a highly purified form. This developing agent has been little used due to lack of suitable formulas to utilize its excellent properties and fine qualities.

Quinotol is a fine granular powder, a light tan in color, and easily soluble in water. It produces a prac-

*Director of Research: Fink-Roselieve Co., Inc., New York, N. Y.



tically colorless solution in the presence of Sodium Sulphite and Potassium Carbonate. It is extremely stable in both the dry powder form and in solution as a complete developer, but in either form it should be stored in tightly-stoppered bottles. Quinotol offers many advantages over the developers more commonly used, for it has characteristics and peculiarities producing entirely different results. It can be used alone or in combination with Metol, and when used in a developing solution with Metol, it will produce negatives with a greater brilliance, a longer scale, and a greater clarity than any other developing solution. Formulas containing Quinotol are less subject to the retarding action of low temperatures or the erratic action of high temperatures than those containing any other developing agent.

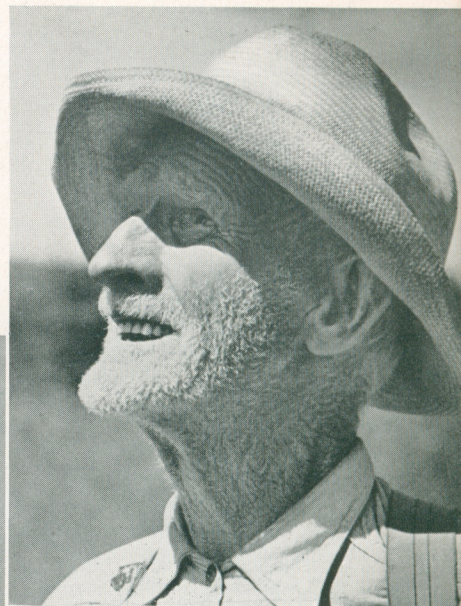
Quinotol lends itself admirably to extremely high concentrations in solution without precipitation, and a solution containing Quinotol will develop a greater amount of prints or negatives than the same quantity of any other developing solution. At the same time there is not the danger of producing yellow stains on prints and negatives, a common occurrence with many other developers when their useful life has reached its limit. Highly concentrated stock solutions and a developer with a long useful life offer the photographer the double advantage of a saving in storage space on the shelf and the need for frequent mixing of developing solution. Quinotol, whether used by itself or in combination with other developing agents, has the utmost stability as to frequent temperature changes or other climatic conditions, and it will not oxidize as readily as other commonly-known developing solutions under the same conditions of storage and use.

Quinotol is particularly recommended for the development of all types of photographic papers with equally excellent and consistently uniform results. With bromide papers it will produce pure black and

blue-black tones, while with chloro-bromide and fast chloride papers a series of warm-tones will be obtained, the particular tone depending on the type of paper, the relative exposure, and the greater or lesser dilution of the developing solution. A developing solution containing Quinotol has great latitude in development, permitting considerable control and correction of errors in exposure during development. Development proceeds at a very definite even ratio, so that within certain limits prints can be removed from the developing solution at any desired period without impairing the final tone of the print.

Prints developed in a solution containing Quinotol lend themselves admirably to all after toning processes without any of the ill-effects which some other developing solutions produce. In this respect it should be remembered that some papers lend themselves more readily to certain toning solutions, a characteristic which is inherent in the particular paper and toning solution and not controlled by the developing solution used. The gradation of prints developed in a developing solution containing Quinotol will be found excellent with everything preserved in correct relation from the finest shadow detail to the most brilliant highlights. Its use is especially recommended in developing prints made from negatives considered almost unprintable.

Quinotol is suitable for the development of negatives, but, although the grain structure is good, it is not recommended for negative sizes smaller than vest pocket ($1\frac{5}{8}'' \times 2\frac{1}{4}''$ or 4.5×6 cm). It will produce a blue-black silver deposit with an excellent tone scale without the necessity of *(Please turn to page 94)*



All photographs by
LE ROY ROSELIEVE
with
SUPER IKONTA B,
CONTAX & IDEAL B

Think Before You Shoot!

PAT TERRY*

THE AD was on the back cover of ZEISS MAGAZINE. The copy read: "The ability to focus the lens and frame the view with the new enlarged view finder through one eyepiece gives the SUPER IKONTA B an additional operating ease * * * " etc. By gum, what a camera! I simply had to have one, that's all. As good as my older model is, this is even better. Think what I can *do* with it! You know how I felt when I read that ad. You probably reacted in exactly the same way.

Well, now that we have it, what are we going to do with it? Of course, we're both dreaming of our new ability to take more pictures faster than we have ever made them before with a macro-camera. But — and there's the rub — are we, you and I, going to shoot faster and think less? Are we going to make *more* negatives that mean nothing? If so, it were better that we pull down the dependable old MAXIMAR or IDEAL B and force ourselves to devote more time to *thinking* about what we are shooting.

ZEISS IKON is speeding things up for us, and so, in their turn, are the other manufacturers. Camera operation is becoming so automatic that a full roll of sharp negatives is the rule rather than the exception. Still, inferior pictures continue to appear. If the development of this startling new ZEISS IKON instrument and others like it is to result in even more portraits with telegraph poles emerging from the heads of sitters, quasi-pictorials looking up at the town's tallest

*Formerly Chief Photo Reporter, Newsweek; Freelance Photographer for Newspapers, Magazines, and Agencies.

CONTAX II with ZEISS TESSAR F:8 28 mm Lens



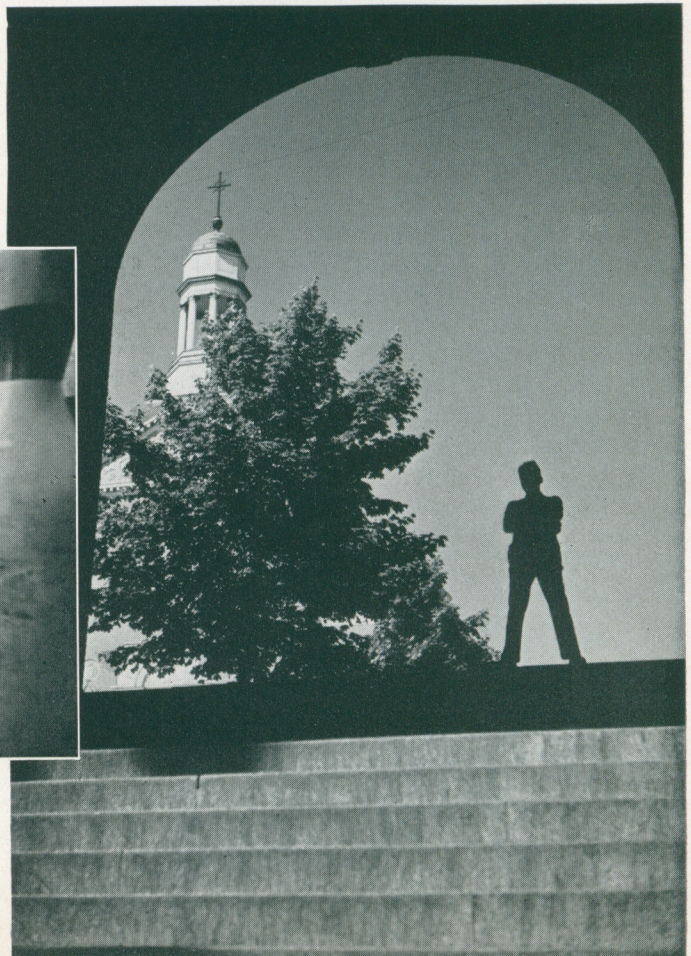
building, bathing-beach groups, and our own children's capers (in which no one else can possibly be interested), ZEISS IKON should rue the day they ever let us have a range-finder camera.

As the title of this article implies, it is hugely necessary to *think* before we take a picture. Most of us simply HOPE. Do you suppose that Colonel Steichen hopes he will make a good picture? "The comparison is absurd," you remark. "Colonel Steichen is possibly the greatest photographer that ever lived, while I am a mere amateur." True, yet as a matter of fact there is only one point of difference between you and me and Steichen. Sometimes we think before we press the button—Steichen always does.

In an earlier article in ZEISS MAGAZINE,† I pointed out that it was your background of past experience that enabled you to make dramatic photographs of what is going on around you. I meant by that, that it was the amount and the intensity of thought that you put into seeing a picture that determined its value as an illustra-

†Cf. Terry, Pat: *Desperate Pictures*; *Zeiss Magazine*, III (1937), p. 238 (December), IV (1938), p. 16 (January).

SUPER IKONTA A with ZEISS TESSAR F:3.5 7 cm Lens
Exposure of 1/25th second at F:8 with L Filter





CONTAX II with ZEISS BIOTAR F:2 40 mm Lens

tion. When you lift that beautiful new SUPER IKONTA B to your focusing eye, you are somewhat in the same position as a man who is about to write a descriptive article. As a matter of fact, you are going to tell a story in pictorial form, so it matters a great deal whether or not you have given considerable thought to the "narrative" in the picture you are about to make. In brief, you are photographing something—*do you know what it is?*

Look here—suppose you were commissioned to "write" a story each issue for a monthly magazine whose subscribers and newsstand buyers were totally illiterate! Imagine a magazine like *Life* or *Look* without a single caption! You have a letter from the editor which advises you that he is interested only in photographs which need no explanation of any kind. Don't you suppose your approach to the subject of picture making would undergo a radical change? No longer could you show someone a print and say: "This shot would have been swell *if*—." Your favorite snap of "the gang" last summer at Lake Ha-ha, in which everyone appears to be enjoying a huge joke as he grins inanely at you out of the picture, would hardly amuse the editor of a publication whose subscribers couldn't



CONTAX II with ZEISS BIOTAR F:2 40 mm Lens

All photographs by PAT TERRY

read your excruciatingly funny description of the circumstances under which the shot was made. If you did have a commission like this, I say, you would take uncommon care that everything in your combination range-and-viewfinder had something else in it besides sharpness. "Am I, then, to deliberate like a jaundiced-eyed 19th Century philosopher before I click my shutter? Must I attempt to outdo Anton Bruehl every time I roll on to a fresh frame for a shot of my friends or a view of my home town?" Well, why not? You may not make as many pictures at first, but before very long every picture you *do* make will possess within its frame what I like to call "Impact;" what William Mortensen calls "The Command to Look."

When I urge you to think before you shoot, I am not concerned with your thoughts about the technique of operating your camera. That should be automatic. Indeed, the more reflex you can make your handling of apparatus, the more attention you can devote to the picture itself. More about this later. The writer has been sharply criticized for his attitude toward the new photographic apparatus like exposure meters and range finders. In a talk before a well-known camera club he denounced these devices—exposure meters in particular—in no uncertain terms. He heard later that the members of this club now regard him as a "most unscientific photographer." He was laughed at openly because he professed to have "secret" methods of working. He took this criticism in good fun, however, because as long as he continues to use a camera to earn his bread and butter, he will try to make as automatic as possible such tech- (*Please turn to following page*)

(Continued from page 91) nicalities as exposure, focus and development. The idea being, of course, that he wishes to free himself from physical or mental activity irrelevant to the picture itself. Let me amplify this point:

There is no question but what the use of a meter will result in a larger average of well-exposed negatives, but even this instrument is subject to judgment in its use. It is possible to get widely different readings depending upon where the meter is held with respect to the sky or the foreground, to the shadows or the highlights. I've often wondered why someone doesn't invent a device which will automatically select the correct angle of view of the subject matter to be included within the range of the meter. This would eliminate all judgment as to meter angle and position and, consequently, make thinking, as it affects exposure, completely unnecessary. Use the additional operating ease as intended by the Zeiss Ikon designers. To simplify camera operation so that the attention previously required by the camera can be devoted to the picture. Seriously, though, the point I am trying to make is that even though a meter may solve the "correct" (the quotation marks are intentionally ironic) exposure for you, its operation consumes valuable time that should be devoted to the picture itself. How much can you expect in a photograph in which the preamble to making it included readings of foot-lamberts, candle power, Scheiner and DIN values taken close to the subject, from the camera, in the densest shadow, in the brightest highlight, meanwhile rotating dials and resetting shutter speeds and diaphragm readings? As well expect not to be short-changed at a county fair if you had to compute what the ticket-seller gives you back by means of pencil-and-pad arithmetic. A really great photographer of my acquaintance precedes every exposure with a Fascist salute, meter in hand, as he mutters strange incantations and rotates

CONTAX II with ZEISS SONNAR F:1.5 50 mm Lens
Synchroflash of 1/200th second at F:11



little dials. His work is beautiful—but, how much more so would it be if he would only free himself from the attention-distracting time-consuming habit of exposure meter consultation? Even a range finder should be dispensed with at times. The ZEISS IKON designers evidently think so since they place nicely accurate tables of focal depth around the lens barrels of their hand cameras. With exposure settings adjusted almost unconsciously, with lens aperture set at optimum for depth and light-subject conditions, you are free to THINK before you shoot.

As to this photographic "secrets" business—well now, it may be a comfortable thought that "there are no secrets in photography!" But, unfortunately, the statement is specious. There are plenty of secrets. If there weren't we'd all be masters. Bob Leavitt repeatedly takes me to task for claiming to have a couple of secrets—and who am I to criticize him, believing as I do that he is one of the leaders in our profession. Yet I aver that he has plenty of secrets, too; secrets of thinking; secret ways (perhaps unknown even to Bob) of viewing a picture problem. For years Colonel Steichen achieved a depth and juiciness in his work that eluded his most skilful competitors. When asked how he secured his results, his provocative smile would appear, and he'd say, "I really don't know. I have no secrets." As a matter of fact, he believed this himself. However, someone told someone else, you know, and it became known that Steichen was using a Carl Zeiss Apo-Tessar, F:9; a lens used almost exclusively up to that time by photo-engravers. Many of the boys are using process lenses today. I contend that the Colonel wanted 'em sharp, and he wasn't going to tell every anxious friend how he did it. And while it's no secret now—it was one for about ten years. A colleague of mine the other day said: "No kidding, Pat. What developers are you using?" Apparently he knew I was getting fairish results which he would like to try out for himself. In other words, he wanted to know my "secret." I told him, because I like him and trust him. But I don't tell everyone. Sure there are secrets in photography, just as there are in golf, or baseball, or bridge. Having a secret way of working is one of the things that I mean when I say: "Think before you shoot!"

Now let's get down to brass tacks: By all means keep and use your exposure meter. If you haven't one, buy one. There are times, if you don't allow it to become a crutch, when it will get you out of many a tough spot. But, why not study light? It isn't half as elusive as you may think. Am I so terribly unscientific if I suggest that you contemplate this wonderful phenomenon as you would any other medium you might use to create something artistic? Why not begin today to record your exposures so that you will have some means of referring back in your mind to conditions of light and subject which form a precedent? Ask yourself: "The last time I took a picture in a light like this of a subject like this, what exposure did I use, and what stop?" If you could respond with an instantaneous answer, without consulting tables or setting dials, wouldn't you get a better picture? It is amazing how quickly you will discover that light values and subject conditions group themselves into types.

The first thing to do is to decide upon a standard speed which you, theoretically, will use for all pictures, altering only the stop to suit the conditions obtaining at the time you make the exposure. In this way, you have only one variable—the stop. Very soon, you will group subjects and lighting in your mind to correspond with stops. The news-reel men will say, "That is an F:4.5 light." "This is an F:8 subject." Since their exposure at normal speeds is always a constant, they get into the habit of thinking in terms of diaphragm apertures. (Amusingly enough, I don't know a single newsreel man who, when using a still camera, doesn't fall into the time-consuming method of peering with that well-known puzzled "exposure-meter expression" at a wiggling pointer or a dissolving blue image—yet he invariably has a highly perfected eye for light values!) Modern sound-type movie camera shutters expose film at about 1/50 second at (Please turn to page 94)

Notes & News

BUBBLES IN OPTICAL GLASS

It has been proved by the most exacting experiments that the small bubbles found in modern fine lenses have not the slightest appreciable effect upon the optical performance or light transmission of a lens. If it is granted that these bubbles cause a slight loss of light by diffusion, mathematical calculation will show that under the most unfavorable circumstances this loss is scarcely as much as one-fiftieth of one per cent of the light transmitted by the lens. This loss of light is so small, so far beyond the accuracy of any exposure meter, and so well within the latitude of present-day sensitive emulsions, that it cannot have the slightest effect upon the effective light transmission of the lens system. These bubbles are caused by the fact that in the manufacture of many of the newer types of optical glass it is impossible to obtain a flawless fusion and at the same time secure certain necessary optical qualities of refraction and dispersion. In these types of glass the bubbles could only be removed by completely liquefying the glass in the second melting, which would cause the component parts to separate in the order of their density. For this reason it is impossible to obtain under all circumstances with these new types of glasses a material which is optically perfect and at the same time entirely free from small isolated bubbles. However, practically insignificant as the bubbles in optical glass are from the viewpoint of optical performance or light transmission of the lens, they do assume a very great significance as a technical guarantee and as a characteristic criterion of a glass which fuses with great difficulty, which is very hard, and which is capable of resisting external influences in a high degree. Do not judge your lens by its "prettiness," which is an immaterial aspect, but its optical qualities and permanence.

THE XL FILM FORMULAS

We give the developer formulas for DuPont XL not included with the article *Speed and Fine Grain* on page 62 in the March issue.

THE ND-2 DEVELOPER FORMULA

Water	975 c. c.	125 ozs.
Rhodol*	2.5 gms.	146 grs.
Sodium Sulphite (Anhydrous)	75.0 gms.	10 ozs.
Hydroquinone	3.0 gms.	175 grs.
Borax†	5.0 gms.	292 grs.
This makes final volume.....	1000.0 c. c.	128 ozs.

*A DuPont Developing Agent; Metol or Elon may be substituted in equal quantities by weight.

†The crystalline form, such as *Twenty-Mule Team*, not the U.S.P. powder.

Develop at 68° with slight agitation for nine minutes for a gamma of .74 and twelve minutes for a gamma of .90.

THE ND-3 DEVELOPER FORMULA

Water at 125° F.....	975 c. c.	125 ozs.
Paraphenylenediamine*	10 gms.	1½ ozs.
Glycin	2 gms.	117 grs.
Sodium Sulphite (Anhydrous).....	90 gms.	12 ozs.
This makes final volume.....	1000 c. c.	128 ozs.

*Free base not the hydrochloride.

Expose negative 1/2 to 1 stop above normal to avoid loss of detail. Develop at 68° F. with slight agitation for 39 minutes for a gamma of .7.

BRILLIANCE — GRADATION — SHARPNESS

To the photographer Harry Champlin — photographer, photo-chemist, and author — needs no introduction. His new book, *Brilliance—Gradation—Sharpness with the Miniature Camera*, is one book that should be on every photographer's shelf. Simply explained, the book carries the reader through all the steps necessary in making a picture from the selection of the film to the making of the print. Of especial importance is the fact that the relationship and interdependence of the

various steps is remembered and explained. It will cost you \$2.00 at your ZEISS Dealers and will save you many times that amount as well as aiding you to secure better pictures.

THE MONTHLY COMPETITION EXHIBITS

The exhibition schedules of prize-winning prints in the ZEISS IKON Monthly Competitions for the next few months is as follows:

April 4th to April 16th.

Nosset's Studio, Steubenville, Ohio
Snap Shot, Inc., Knoxville, Tennessee
The Sutcliffe Co., Louisville, Kentucky

April 11th to April 23rd.

Bicknell Photo Service, Inc., Portland, Maine

April 25th to May 7th.

Kelly & Green, Bristol, Virginia
Roanoke Photo Finishing Co., Roanoke, Virginia
Honaker Book & News Co., Huntington, West Virginia
Huber Company, Cincinnati, Ohio
National Camera Exchange, Minneapolis, Minnesota
H. W. Fisher, St. Paul, Minnesota
Northern Photo Supply Co., Minneapolis, Minnesota
Leigh, Inc., Minneapolis, Minnesota
Photo Service Shop, Grand Rapids, Michigan
Calkins-Fletcher Drug Co., Ann Arbor, Michigan
Metzgers Photo Supply Co., Akron, Ohio

May 2nd to May 14th.

Pennington & Hoopes, Inc., Ardmore, Pennsylvania

May 16th to May 28th.

The University Photo Shop, Madison, Wisconsin
Photocraft, Madison, Wisconsin
Rex Studio, Peoria, Illinois
The Camera Shop, Springfield, Illinois
Dayton Camera Shop, Dayton, Ohio
Malone Camera Shop, Dayton, Ohio
The Camera Shop, Inc., Canton, Ohio

May 23rd to June 4th.

Marks & Fuller, Rochester, New York
Sibley, Lindsay, & Curr, Rochester, New York
Smith & Surrey, Inc., Rochester, New York

While the sets consist of duplicates of the original prize-winning prints entered in the monthly competitions of ZEISS MAGAZINE, they have been made from the original negatives and the original prints entered have been followed as a guide. The collection is generally shown as a unit, and ZEISS Dealers mentioned above will be pleased to give you information concerning their exhibition and the monthly competitions.

THE MONTHLY COMPETITION

(Continued from page 74) day. The boats at rest in the still water, the long even horizon line, and the lonely bird wending its way homeward combine to give a feeling of perfect peace and calm so typical of the hour of dusk when all nature finds surcease from the rustle and bustle of the day. In addition to the subject matter which is so naturally suited, this feeling of almost perfect quiet is emphasized by the evenness of tone prevailing throughout the picture, the original print itself having a rather flat, gray scale with no jarring contrasts.

The third prize award goes to Maxwell Frederic Coplan for his excellent picture, *On The Bowery*, for which he used a CONTAX fitted with the ZEISS SONNAR F:2 85 mm Lens with an exposure of 1/125 second at F:5.6. Mr. Coplan has done a masterful job in catching the spirit of New York's Bowery, securing a great atmospheric quality by taking the picture against the light. The setting, too, is excellent, because in the upper part of the picture we find first-hand evidence of one of the most important industries carried on in that type of neighborhood, while below we have the two rather forlorn figures that are typical of those who spend their last days aimlessly wandering about. In this one study, Mr. Coplan has caught all the drama and mood of this well-known slum area.

THE STORY BEHIND THE PICTURE

(Continued from page 81) I recently had a fine opportunity to study the highest possible degree of camera precision in my new CONTAX. Each minute part seems to be hand-made, hand-fitted, and hand-polished. The units move as though they were on ball bearings, although there is hardly an Angstrom Unit of excessive spacing anywhere on the camera. It is my earnest hope that some day I may have the chance to see the actual manufacture of a CONTAX in the ZEISS IKON factory, also have the thrill of trying out a JUWEL.

Your editor did not ask me to make any comments on ZEISS IKON Cameras,—but here is an opportunity of which I cannot fail to take advantage. So I am taking the liberty of slipping in a short expression of my opinion of these fine cameras and accessories.

(It is with pleasure and gratitude that we acknowledge the kind words of such an outstanding pictorialist, instructor, and lecturer as Mr. Alenius.)

HOW TO USE QUINOTOL

(Continued from page 89) resorting to longer than normal exposures. Development is easily controlled for a variety of individual results, and it will work equally efficiently as either a tray or tank developer. Due to its great developing latitude, over and under exposures can be compensated to a great extent by easy manipulation and slight changes in the dilution of the developing solution.

Quinotol itself is very susceptible to the retarding influence of Potassium Bromide. Therefore, it is not necessary to resort to the addition of great quantities of Bromide in order to preserve the clarity of either negatives or prints. An important factor in printing, for the addition of great quantities of Potassium Bromide will affect the final tone of the print. This susceptibility also permits the control of faults in exposure without varying the proportions of the developing agent itself. Over exposure can be corrected by the addition of a slight amount of Bromide, while under exposure is taken care of by prolonged developing time in a more dilute developing solution.

The recommended stock solution formula for Quinotol is as follows:

QUINOTOL FORMULA LR-23

Water at 100° F.....	500 c. c.....	16 ozs.
Metrof*	12 gms.....	180 grs.
Quinotol	42 gms.....	1½ ozs.
Sodium Sulphite (Anhydrous)	130 gms.....	4½ ozs.
Potassium Carbonate†	175 gms.....	6¼ ozs.
Potassium Bromide (Crystals)	10 gms.....	150 grs.
Water to	1000 c. c.....	32 ozs.

*A Fink-Roselieve developing agent; Metrof, Rhodol, Pictol, or Elon may be substituted in like quantities.

†The Fink-Roselieve 99% dehydrated Potassium Carbonate is recommended; if the hydrated variety is substituted, the amount must be increased by 16% in weight.

The chemicals *must* be dissolved as completely as possible before the addition of the next in the order given above. The solution will look turbulent until the Potassium Carbonate and Potassium Bromide are added, but then it should be a clear, amber-colored, concentrated liquid. After dissolving all the chemicals, cool water should be added until there is 32 ozs. of solution; this stock solution should then be cooled, filtered, and stored in tightly-stoppered bottles.

For use with all contact printing papers, one part of stock solution should be added to ten parts of water. A correctly exposed print will be fully developed in from one to one-and-a-half minutes at 67° F. For use with chloro-bromide and bromide enlarging papers, one part of the stock solution should be added to twelve parts of water. A correctly exposed print will be fully developed in from one-and-a-half to three minutes at 67° F. depending on the type paper used. If warmer tones are desired, the stock solution should be further diluted and the exposure of the paper increased to suit individual requirements.

For tray development of negatives, the stock solution should

be diluted with from twelve to eighteen parts of water. The slower varieties of panchromatic emulsions will be developed in from five to seven minutes and the fast panchromatic and orthochromatic emulsions in from six to eight minutes, both at 65° F. For tank development of negatives, dilute one part of stock solution with thirty parts of water. Develop all slow panchromatic emulsions from twelve to fifteen minutes and all fast panchromatic and orthochromatic emulsions from thirteen to sixteen minutes, both at 65° F.

The versatility and adaptability of Quinotol, both alone and in combination with other developing agents, is so great that its value cannot be determined in one trial. The photographer should try it with his favorite paper or film under a variety of conditions so that its full possibilities in use can be fairly determined. In practical application it will be found to be one of the most universal developers that the photographer can have in his darkroom.

PRINT DEVELOPER FOR BLACK TONES

Water at 100° F.....	500 c. c.....	16 ozs.
Sodium Sulphite (Anhydrous).....	175 gms.....	6¼ ozs.
Quinotol	45 gms.....	1½ ozs.
Potassium Carbonate (99% Dehydrated).....	120 gms.....	4½ ozs.
Potassium Bromide (Crystals).....	3 gms.....	45 grs.
Water to.....	1000 c. c.....	32 ozs.

For use dilute one part of Stock Solution with from eight to ten parts of water; use at 67° F.

PRINT DEVELOPER FOR WARM TONES

Water at 100° F.....	500 c. c.....	16 ozs.
Sodium Sulphite (Anhydrous).....	75 gms.....	2½ ozs.
Quinotol	20 gms.....	300 grs.
Potassium Carbonate (99% Dehydrated).....	45 gms.....	1½ ozs.
Potassium Bromide (Crystals).....	1 gm.....	15 grs.
Water to.....	1000 c. c.....	32 ozs.

For use dilute one part of Stock Solution with five parts of water; give paper full exposure, use at 67° F.

THINK BEFORE YOU SHOOT

(Continued from page 94) normal sound speed. This is constant. So the cameraman has only one variable to think about. You can make up *your* mind to have only one, also, if you will just contract the habit. After a time, you will begin to think of every combination of subject and light as having a definite stop value—at your predetermined standard shutter speed. Should you wish to double the shutter speed to stop motion, you will of course have to open up a stop. Conversely, if the subject demands greater depth than is afforded by your standard speed with its accompanying stop, you will cut that standard exposure in half and use a smaller aperture. The point is that you approach the subject and the light condition with but a single changeable factor in mind—the stop. "What about different film speeds?" you ask. I am coming to that. I rate the films I use according to a shutter speed, and that shutter speed is standard with me until I change types of film. I call Panatomic a 1/25 second film; Superpan, a 1/50 second film; Superpan Press, a 1/250 second film. If my camera is loaded with Panatomic, then I mentally determine that my standard is 1/25 second for every picture I make. Come with me mentally now and make a picture.

We are standing on a broad, sunlit street. We are loaded up with a 1/25 second film (Eastman Panatomic, Agfa Finopan, et al). We want to take a picture of a man approaching us about twenty-five feet away. We say to ourselves "What stop?" We already know that the exposure is 1/25 second. Now my past experience tells me that, with my developer under those lighting conditions and with that subject, the stop should be about f:11. However, the man is walking briskly and 1/25 second is insufficient to freeze his motion, so we must open up the diaphragm. For each stop we open up we must double the speed of the shutter—like this: 1/25 at f:11 or 1/50 at f:8 or 1/100 at f:5.6 or 1/200 at f:4. Does it sound difficult? As a matter of fact, this mental calculation can be done instantaneously—almost without thought after you get the hang

of it—provided you have some experience in having grouped subjects-plus-light in your mind with diaphragm numbers.

Now let's go over to the park and take a shot under the trees. Same film, remember—1/25 second. A shot of a friend taken at twelve feet—what stop? Now think about it, a moment. Couldn't you estimate, very roughly of course, how much less light there is here than there was on the brightly lit street we just left? Is there half as much? Or is it a quarter? An eighth? You think that there is about an eighth as much light coming from this subject as there was from that other subject? Well, you are probably right. Now we calculated the opening before as f:11 with our standard shutter speed of 1/25 second. Here it will have to be three stops greater: f:11—f:8—f:5.6. That's it, f:5.6. If later you discover that f:5.6 resulted in a thinnish negative, you'll remember that the next time you have to take a shot under similar conditions of light and subject-matter. You see, I'm only suggesting that you think it out instead of placing all your trust in an instrument. Very soon these estimates will become reflex and when they do, you are free to spend this valuable time in looking for the picture and thinking intensively about it before you let fly at it with your camera. "This system couldn't possibly be as accurate as a meter," you assert. I flatly declare that it can be and is. The wide latitude of modern photographic emulsions makes any slight errors in *experienced* judgment negligible in actual practice. News-reel cameramen who shoot under the most trying conditions and under the widest possible variety of light intensities never use a meter. Have you ever sat in a news-reel theatre and criticized the photographer for having under or over exposed? Hardly.

When I suggest that we should think before we shoot, I am at once implying that we should free ourselves from as many mechanical, electrical, and optical encumbrances as we can in order that we may have the *time* to do so.

I realize that I have not been very specific regarding what one should think *about*. It cannot be easily disposed of by the one word "composition." Composition today has become the most abused word in photography. To most of us, it means lying on our backs and using the ceiling or the sky as a background for our ladylove's head, or juxtaposing a very near object with a far distant one, or looking through a pattern such as a gate or lace curtain at something beyond. These aspects are all very amusing, but they have little or nothing to do with composition. They are viewpoint stunts, and composition is a deuce of a lot more than mere viewpoint. Composition is the combination of the parts of a work of art to form a harmonious whole. When one thinks of it in terms of music, the definition becomes more clear. These parts that harmoniously form the whole are, as in music, psychological as well as physical; emotional as well as mental, SO the writer is stupid enough to feel that the problem cannot be solved by means of bisected diagonals, pyramids, stars, crosses or "whirling squares." So long as the parts harmonize it matters little whether or not you ever heard of Professor Jay Hambridge or any other authority on composition. In fact, in many respects, too great a familiarity with composition is as stifling as too much exposure meter. If you need a crutch for your composition, I suggest a bout with a good text on Dynamic Symmetry. Here you will find the delicate subtlety of pictorial design reduced to the level of computing bond yields with a commercial slide rule. The pundits in this field of art will look at your print as it hangs on a salon wall and gravely tell you that it is composed "in a root five with two whirling roots overlapping and a whirling square on each end with a root two inside of a root one." (I quote verbatim from an eminent authority on the matter.) It is to be observed that you are invariably told these things *after* your print has been exhibited! All *you* did was to make the exposure because you *liked* the scene before your lens. Why did you like it? More than likely it was because you understood and responded completely and instantaneously to its inherent psychological and emotional implications—as well as to its mere form and pattern.

So what we are to think *about* before snapping the shutter is actually composition after all, if by composition we mean

the harmonious combination of *all* the parts of a scene that is framed by our viewfinder. We shall, I believe, make greater pictures when we have so freed ourselves from the parasitic weight of technicalities that we have the time to think speedily, albeit intensely, about the dramatic, emotional, or psychological implications in the subject we are considering for a picture. And we shall win more salon hangings, more and larger checks from editors, when our understanding of what we are attempting to photograph is so vividly clear that we can make the exposure at the precise instant when the curve of dramatic intensity in the scene before us is at peak. This is what I mean when I say, "Think before you shoot!"

SILVER GRAINS

(Continued from page 79) Having learned to recognize a picture we must go further and try to represent it in a manner which does it full justice. And this calls for complete familiarity with the mechanism and operation of the camera and its component parts. Only in this way can we work with the assurance of worthwhile results.

After becoming conversant with our instrument, we can go ahead with the problems of development and printing. At this point we may begin to argue fine grain, pro and con. BUT, it is a mistake to stop there. There is one more point to consider, the final result of the processes involved—the print itself.

After all, if there is to be no print why argue about grain? Why raise an issue where there is no objective? The entire photographic process—all the years of research and experiment, the precision cameras, lenses and shutters, the filters, films, developers and papers—all bear witness to the purpose of their existence. All point to an ultimate goal—the print.

I opine, therefore, that it is wrong and wasteful to take, but not make, a picture. I don't say that every single negative ever taken should be printed. I do say that the purpose of the negative is not, as so many suppose, to provide a subject for argument. The function of the negative is to record the necessary image which will later be converted into a picture. To make an exposure, argue light and filter factors, develop the film and then, after discussing the merits of ABC Grainless and Zero-Grane XYZ, store the negative away to languish unprinted is lamentable. I can only compare this practice to the painter who spends his time admiring the beautiful colors on his palette instead of applying them to the canvas. It may be pleasurable—but certainly there is no tangible result.

To preserve, in tangible form, a fleeting moment of existence, to create a mood, or concretely interpret an idea; this is to know achievement. And so, with your achievements, you will find happiness in the creations you bring forth.

THE POSSIBILITIES OF DISTORTION

(Continued from page 87) notice that the parts of the paper furthest from the lens require more exposure, necessitating the use of a spotting card to keep the print even in tone. This, as you no doubt know, is merely a piece of cardboard with a small hole punched through it. The card must be large enough to cover the entire area of your print. It is used, after the area of the print nearest the lens is sufficiently exposed, to permit more light to reach only those areas which are as yet under exposed. The making of a test print before making the final print will be found a great aid in estimating exposure for various areas of the final print.

Good composition is as necessary in distortion as in straight prints, and distortion should not be regarded as a cure-all for bad technique or quality. As a matter of fact, it is more important to exclude extraneous matter from distorted prints since the distortion of unnecessary detail makes for confusion. Do not permit anything to distract from the center of interest. Distorted prints will be found pictorially acceptable, but only when the distortion becomes a part of the picture and not for the sake of the distortion itself.

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