


THE SUBMINIATURE TIMES

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UP AND DOWN THE LEARNING CURVE

Watch cameras have a certain 'Gee Whiz' factor. You pull back your sleeve, touch your wrist, and walk away. Okay, the image is on the film, how do you get your pictures? What kind of image quality can you expect?

Newsletter #89 stirred quite a few letters from prospective owners of the P1020, asking an opinion of the camera and film.

The camera works. The lens is sharp. And Vario-XL is a realistic film choice, when you don't know what the light level of your next subject will be. (The camera has one setting, $f/2.8 @ 1/30th$).

Chromogenic films will get more useable images. On the other hand, the general consensus is that Tri-X is sharper. Needs vary.

We've been recommending Bob Schwalberg's review of Vario-XL which appeared in "Popular Photography" November, 1980. Since it is no longer available, we present it on pgs 2-5, F.Y.I.

Submitted by D. Holland.



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■ #P920 Security Camera, disguised as skydive/diving watch, \$209.95
Includes 21 shots of color Minox film.

■ #MX920 Minox film for P920, 15 color shots, \$16.95.

■ #P1020 Wristwatch Micro-Camera, \$1,395.00 Includes 4 film-disks

■ #DVF-1 Special Micro-disk film for #P1020, seven shots each, \$29.95

First Look Agfapan Vario-XL

Agfa-Gevaert made the world's second, and really simultaneous, announcement of a black-and-white film using color couplers, at *photokina* 1980. Following hard on the heels of Ilford's pre-Cologne revelation of their XP-1 400 material (see our September report), this new chromogenic b&w material is Agfapan Vario-XL, which joins Agfa's silver-boxed "Professional" film lineup with a variable minimum/maximum speed rating of ASA 125/1,600. No marketing information was available at press time, but unofficial estimates are that the material will go on sale in Europe by the time that this issue appears.

Agfapan Vario-XL is a two-layer material, with a fast emulsion up front, and a slower coating behind, in order to be able to bridge very high subject contrast ratios. Each of these emulsion layers has its own silver halides and related color couplers. The exposed silver

AGFAPAN VARIO-XL



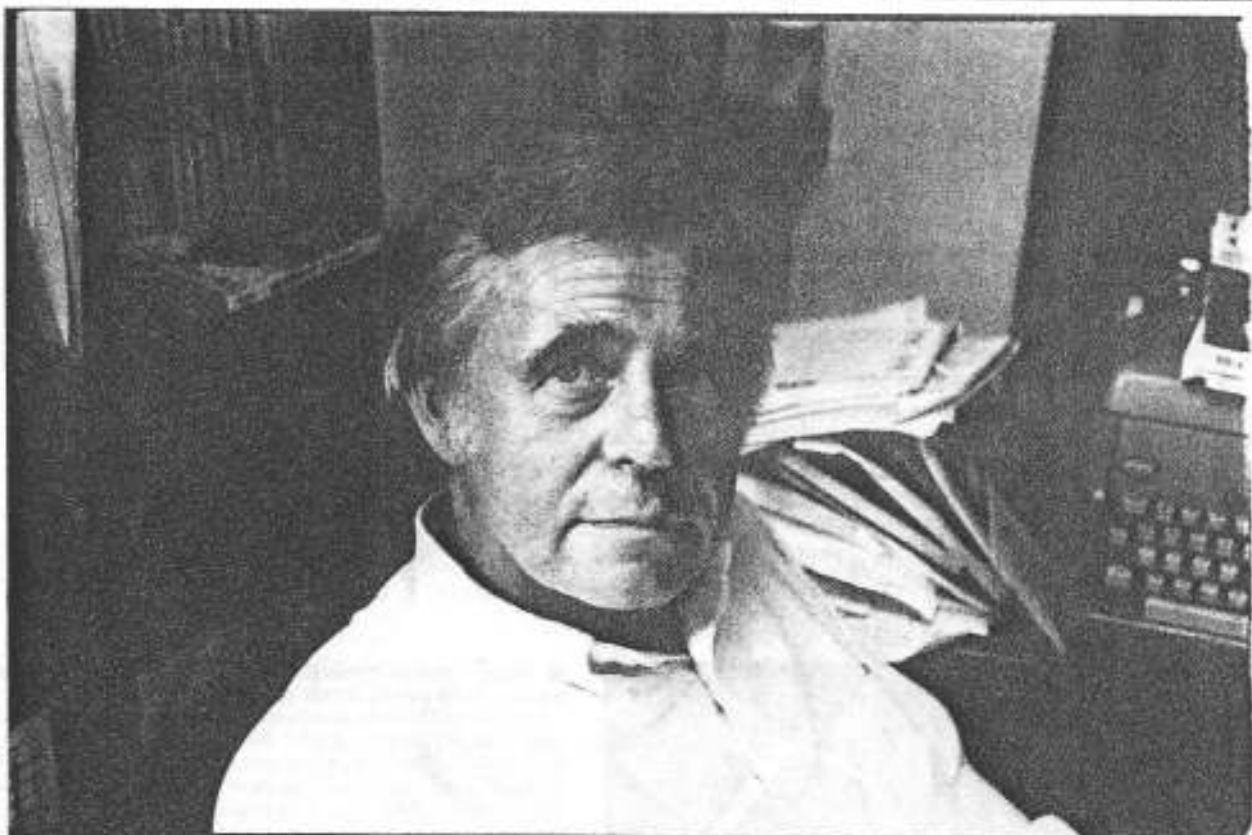
VOOR 36 ZWARTWIT-FOTO'S

Latest chromogenic b&w film uses color couplers for superior quality and high speed

By Bob Schwalberg

halides are developed to form metallic silver which activates the dye couplers incorporated into both layers. Then, all silver—the metal and the unused halides—is bleached out, leaving a slightly reddish image composed only of color couplers. Very good suppression of reflections and other stray-light effects within the emulsion is achieved by a colloidal silver antihalation layer between the second (slower) light-sensitive layer and the film base. This silver is also removed by the processing bleach.

The new Agfapan chromogenic film is stated to be compatible with the Agfa AP 70, Kodak C-41, and similar chemical kits for processing color-negative films. In Europe, a version of Agfa AP 70 called Agfa process F is available for user-processing, employing a combined bleach-fix, or "blix." Our tests with a very limited Vario-XL film supply were



Agfapan Vario-XL, 6X blowup from ASA 400 exposure.

Top to bottom are 30X sections from Agfapan Vario-XL, Ilford XP-1 400, and Kodak Tri-X, exposed at ASA 400. Note the finer grain and smoother gradation of the two new chromogenic b&w films.

made in Kodak C-41, using identically exposed rolls of Ilford XP-1 400 film as a chromogenic black-and-white control, with Kodak Tri-X (processed in D-76 diluted 1+1) for ASA 400 comparison purposes.

At this time I can report that Agfapan Vario-XL is very much like its chromogenic Ilford counterpart. Grain is extremely fine, especially at indexes of ASA 400 and less, with good sharpness and very long-scale gradation. Unlike conventional, all-silver films that grain up when overexposed, chromogenic Agfapan Vario-XL and Ilford XP-1 400 produce progressively finer grain when overexposed. This path to near grainlessness is blocked, however, by a progressive loss of image contour sharpness, or acutance, which limits the trick to about ASA 100. Huskier negatives made at lower indexes than this have an unpleasantly smeary lack of

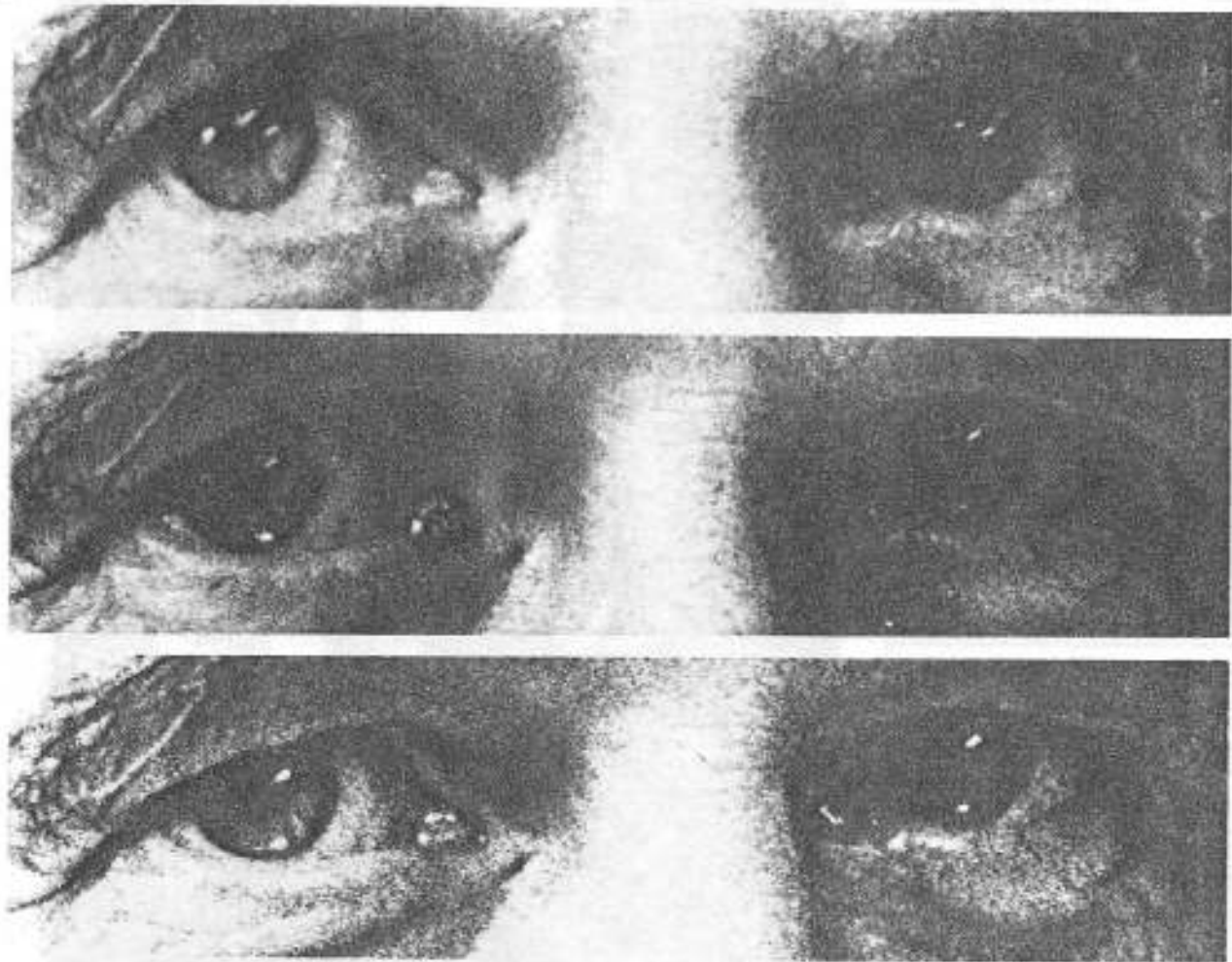
sharpness and require surprisingly long—even impractical—enlarger exposure times.

Our best Agfapan Vario-XL negatives were those exposed at either ASA 400 or 200, exactly as our findings for Ilford XP-1 400. I do suspect, however, that the true speed point of Agfapan Vario-XL may be something like one-third of a stop faster than that of Ilford XP-1 400, putting this at roughly ASA 500. The ASA 125 to 1,600 range recommended by Agfa (and actually printed on the film boxes) does indeed represent the range of useful Vario-XL exposures possible with standard processing, although my own inclinations are to put the maximum at ASA 800, and to avoid this as much as possible.

From my extensive experience with the Ilford brand of chromogenics, and the few test rolls of Vario-XL that we were able to expose, process, and print,

the true advantage of color coupler b&w lies in heavier negatives which mask their inherent graininess and which provide unusually beautiful tonal gradation. Both of these dye-coupler films effortlessly provide tonal scales with fully detailed shadow and highlight areas that can seldom—and then only with precision exposure and development—be approached by conventional all-silver films.

This special chromogenic talent, and their remarkably fine-grained imagery, are diluted by underexposure, which is the other way of spelling "ASA 1,600." At ASA 400 or 500, Agfapan Vario-XL and/or Ilford XP-1 400 provide a negative that is significantly superior to that of all-silver b&w films of the Agfapan 400, Ilford HP-5, or Kodak Tri-X genre, although the contemporary excellence of these "old-fashioned" materials may leave you gasping. If a small-



AGFAPAN VARIO-XL



ish, full-frame enlargement is made—say at 6 to 7X magnification—the silver image has a certain indefinable beauty that may outweigh all chromogenic gains in grain, gradation, and sharpness. But, take the enlarger up to the really big ratios between something like 15 and 30X to see the real advantages of dye-coupler images. This is considerable, and represents the strongest improvement in the black-and-white speed-to-grain relationship that we've been offered, if not since glass plates, at least since Tri-X.

When exposure density is added by using meter settings between ASA 100

and 400, the chemical activation of more color couplers cause the dye clouds of neighboring image points to overlap, creating a fine-grain effect by filling in the spaces between grains. Despite their real speed of ASA 400 or 500, both Agfapan Vario-XL and Ilford XP-1 400 have a "quality point" in the region of ASA 200 that is absolutely unbeatable for fine grain and sharpness, combined with the best long-scale gradation.

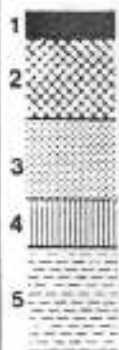
But don't underestimate their ASA 400/500 performance: This is terrific. Even when smaller full-frame enlargements don't gain much from improved

grain and sharpness, the wonderful gradation gives prints from chromogenic negatives a special beauty that all-silver images can't match. And, when you stretch things for mural-sized pictures, or blown-up sections, the value of chromogenics speaks for itself in all areas.

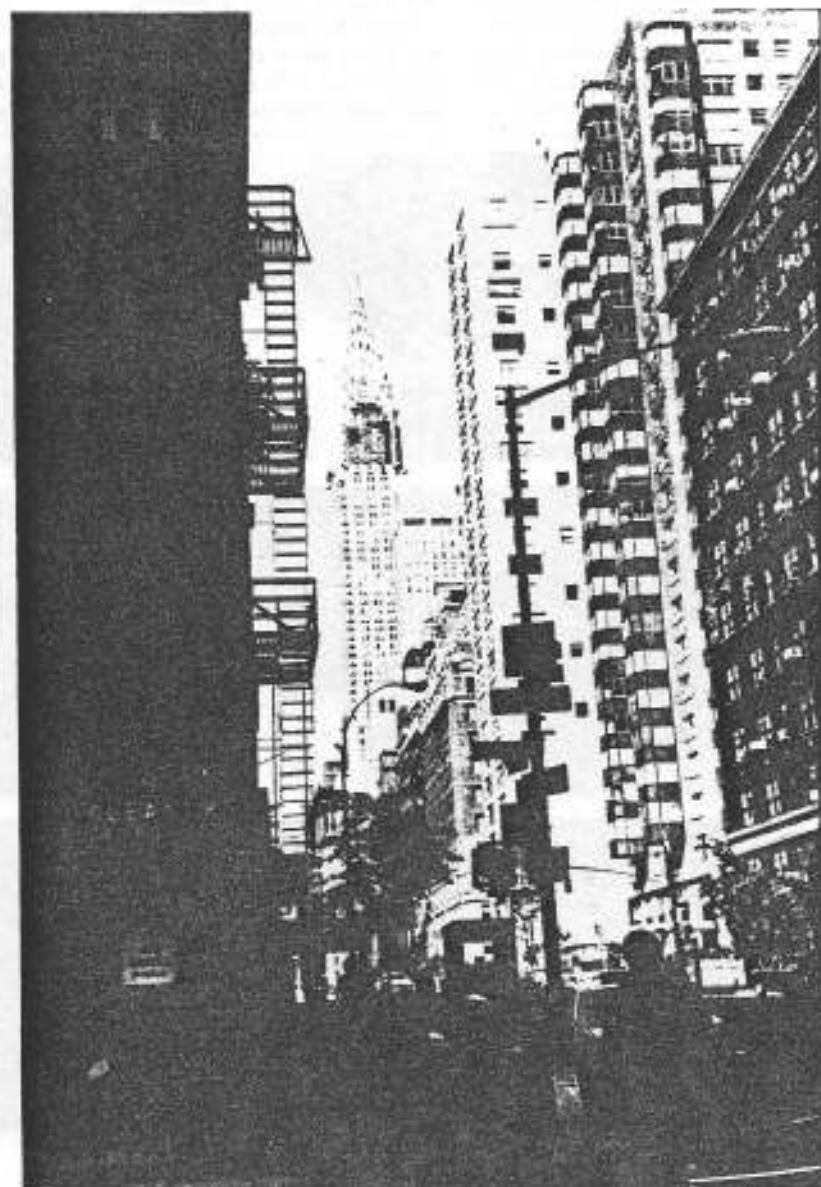
The one difference of kind that you'll encounter with chromogenic Agfapan Vario-XL or Ilford XP-1 400 is this business of increased exposure density producing finer grain. All of the other differences are merely of degree, and the same exposure-development-contrast relationship still holds true: less exposure or more development give in-

**Agfapan Vario-XL
gives sharp,
fine-grain images
with long-scale
gradation**

ASA 400 exposure on new Agfapan Vario-XL chromogenic b&w film reveals full shadow-to-highlight detail with standard Kodak C-41 processing intended for negative color-print films. Fine grain and high image sharpness are revealed in 30X sectional enlargements made at ASA 400 and 1,600.



**Cross-section
of Agfapan Vario-XL
chromogenic b&w film.** 1) Protective gelatin overcoat. 2) Fast emulsion layer with silver halides plus color couplers. 3) Slow emulsion layer with silver halides plus color couplers. 4) Antihalation interlayer of colloidal silver, cleared in processing. 5) Triacetate film base.



creased contrast; more exposure or less processing time cut contrast. Exposure effects—except for the surprising change in grain when you give more or less exposure—tend to be less than those you already know for “normal” all-silver ASA 400 films.

But don't expect any real processing-time flexibility. Extended times build greater grain and fog than ordinary negative developers (which, of course, cannot be used with chromogenic materials), and reducing the development time to produce better grain or reduced contrast doesn't seem to make the kinds of differences we're accustomed to. Ba-

sically, chromogenic b&w photography is largely a matter of variable exposure plus standardized development.

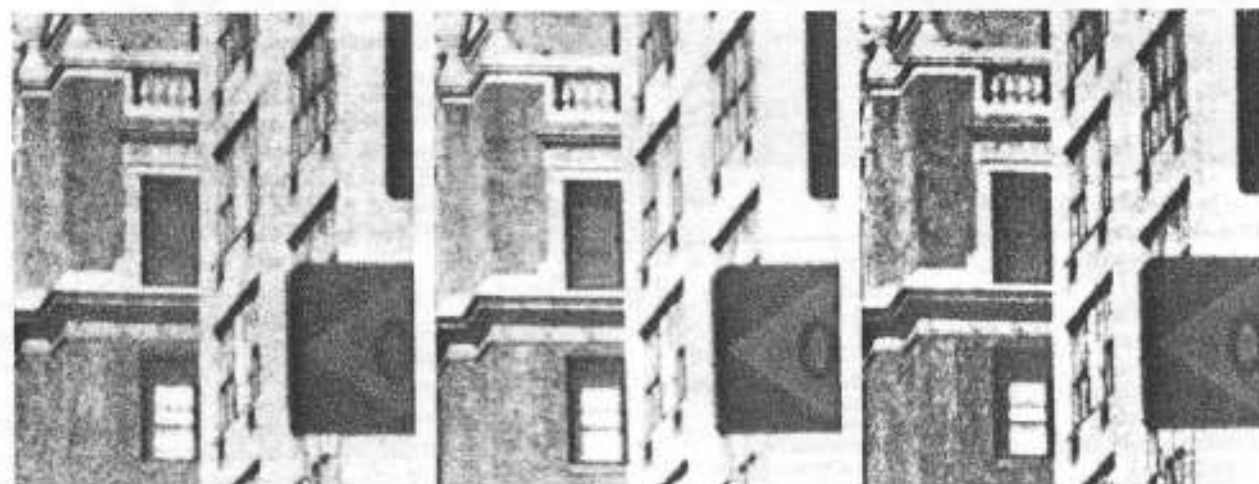
The big chromogenic question mark is the ultimate processing procedure. The woods are full of C-41-compatible kits for color negatives that are still to be tried with the new Agfa and Ilford films. In addition, the smaller and more maneuverable independent chemical houses are sure to jump into this field. Against this is the ubiquitous convenience of the Kodak C-41 process that's just around any corner in every color-finishing lab. Quite aside from this easy availability, C-41 and Agfa's profes-

sional AP 70 process may actually be superior because of their separate bleach and fix baths, with an intermediate wash cycle. To date, none of my chromogenic experiments with a combined “blix” have proved quite as satisfactory, although I can't put my finger on any one specific cause.

Up to now, every advance in film speed has been accompanied by some qualitative limitation, and every gain in grain and sharpness has been at the expense of image gradation and exposure latitude. Chromogenics turn all of this around, and maybe inside-out.



Left: Agfapan Vario-XL, exposed at ASA 400.
Center: Ilford XP-1 400, exposed at ASA 400.
Right: Kodak Tri-X, exposed at ASA 400.



Left: Agfapan Vario-XL, exposed at ASA 1,600.
Center: Ilford XP-1 400, exposed at ASA 1,600.
Right: Kodak Tri-X, exposed at ASA 1,600.



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AROUND SUBMINIATURELAND

CAROL STEVENS, of Houston, Tx., alerted us to the two Minox enlargers currently on sale at the Camera CO/OP. (One has a copying attachment). Y'all call (713) 522-7837.

HOWARD GARBARSKY of Williamstown, Mass. sent a nice sharp Polaroid of his blue Minolta-16. It isn't reproducing well, here. We'll hold it for a possible future color issue and reprint it. Wonderful looking camera, Howard. Thanks for sharing it with us.



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EDITOR'S JOURNAL:

The stuff of lights and bells.

The darkroom at New York's 23rd St. YMCA was run by an ex U-boat driver. The place was so clean, when the red light came on you expected the room to dive toward the North Atlantic.

Many of the club members used a Minox or a matchbox 16mm: Minolta-16, Mamiya-16, Whittaker Micro, etc. Meeting night was for some serious subminiature photography.

You couldn't walk around when anyone was making a print, lest vibration shake the enlargers. Talk about a new film always began with a discussion of the data sheet. This could last several meetings because a data sheet of the '50s was no wimpy scrap. There was more paper than film. It started as a little wad, and what unfolded in your hand was everything known to man about that film: exposure, development, perforation pitch, edge marking codes, spectral response, a lab list, even sample pictures!

To a novice most of it was incomprehensible. But if you read a sheet several times, you suddenly understood the relationships between aperture and shutter speed, between film speed and grain size. A light and a bell would go off in your head, so to speak, and you could really begin to enjoy your subminiature photography.

A camera without a meter is always smaller, and 'real subminiature' was meterless.

MINOLTA 16MM FILM

For Minolta 16mm Cameras Producing

18 or 20 Exp.

IMPORTANT: Load and Unload Film

in subdued light

DAYLIGHT PICTURES

Exposures for Cameras not using a built-in meter.

SHUTTER SPEED:

1/125 Sec. unless otherwise noted.

FILM	Bright Sun**	Hazy Sun	Cloudy Bright	Cloudy Dull*
ASA 100				
B&W Dark Blue Tape	F/16	F/11	F/8	F/5.6
General Film				
ASA 200				
B&W Light Blue Tape	F/16	F/16	F/11	F/8
Low Light Film				
ASA 50				
Color Slide Red Tape	F/11	F/8	F/5.6	F/4
Outdoor-General				

Times have changed, but to encourage our novice friends at Stuyvesant High School, we're bringing back real data sheets. Look for them in our new Minolta-16 film wrappers.

We started with this classic, and we'll keep adding information to the basic sheet until we have one of those good old data packed 'beach blankets' from the '50s.

Subminiature lives!

Al Doyle