Kodak reports to laboratories on:

filters to match your color film to your photomicrographic light source . . . bloody business at Fall River . . . copy negatives on a film with a peculiar H & D curve

What the brain discounts

Color perception is something personal and indescribable that goes on inside your head. A ripe tomato, a lump of carnotite, or the eyes of a flaxen-haired girl look just as meetly and respectively red, yellow, or blue whether seen by candlelight or under a cold north sky. Between the flame and the sky there is a vast difference in the constitution of the light that these things reflect into the eye of the beholder, yet his brain discounts the physical difference and sets all to rights.

Now just because you happen to find yourself past the middle of the sixth decade of the twentieth century, you expect to feel these and all other possible color-feelings through the agency of varying amounts of three factory-standardized dyes on a piece of film. And, marvel to tell, you can come pretty close.

It's just that in the manufacture of a reversal-type color film, a commitment must be made as to light source. If the light source used differs from the one assumed, the physical parameters (they're the only kind available) must be manipulated to meet the psychophysical necessities. The manipulation can be done with dyed gelatin filters placed somewhere along the line. Here, for example, are our recommendations for some light sources common in photomicrography:

Light source	**Correction filters for*		
	Kodak Ektachrome Film, Type B (sheet only)	Kodak Ektachrome Film, Type F	Kodachrome Professional Film, Type A
6-v ribbon or coil filament	82A	82A and 82C	82C
300 to 750-w coil filament	match!	82 and 82C	82A
zirconium arc	2B	82, 82C, and 2B	82A and 2B
carbon arc (4.5 amp)	81D and 2B	82 and 2B	81C and 2B

As for the choice to make in 35mm, look at it this way: If you seek comfort in knowing that your color film is capable of the highest resolving power and acutance that the market currently affords, pick the new *Kodachrome Professional Film, Type A*. Pick *Kodak Ektachrome Film, Type F*, if you want the results at once.

Still another choice might have to be made when the only all-night drug store in the neighborhood has no other 35mm color material than *Kodachrome Film, Type F*. This gives just as good definition as the *Kodachrome Professional*, but, like *Type F Ektachrome*, is balanced for the amateur's flash bulbs and therefore requires the same correction with photomicrographic light sources. The filtering cuts the speed down somewhat lower than that of the other two 35mm choices.

**"82," "82A," "82C," "81C," and "81D" are all* Kodak Light Balancing Filters; *"2B" is a* Kodak Wratten Filter, *which absorbs ultraviolet. The Kodak dealer can fix you up. If you want the filters in 33-mm very thin glass mounts for insertion in the filter receptacle below the substage diaphragm, he'll probably have to write in to us. He won't mind at all, particularly if you have accustomed him to minister to your needs.*

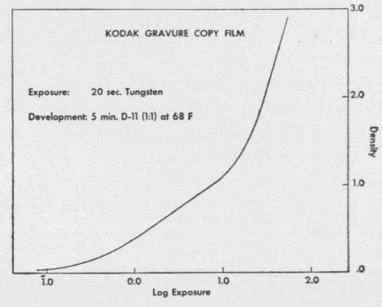
Truly blood

John D. MacPhail likes *p,p'-Benzylidenebis(N, N-dimethylaniline)* (Eastman 3620) better than the classic benzidine for the identification of bloodstains because he finds it more specific. Doing business as Forensic Science Service (144 Third Street, Fall River, Mass.), Mr. MacPhail knows how to keep legal evidence intact. He moistens a filter paper with 0.1N saline and merely presses it against an edge of an old stain suspected as blood. Then he touches the paper (not the stain) with one glass rod dipped in a 1:240 solution of Eastman 3620 in 40% acetic acid. A second time he touches it with another glass rod dipped in an 11:30 solution of sodium perborate in 40% acetic acid. If the paper turns blue-green after the second touch, Mr. MacPhail knows the spot is truly blood. Perhaps something in the bloodstain releases from the sodium perborate the oxygen to oxidize our compound to its far better known form, malachite green, a common dyestuff named for its color resemblance to the brilliant copper mineral malachite.

The first supply of our *leuco*-malachite green that Mr. MacPhail laid in worked fine down to the last grain; presto, twenty years of human violence had gone by and it was time to reorder. (The price is $2.20 for 5 g.) The second lot we supplied worried Mr. MacPhail. It was green enough in the stock solution to invite sarcastic questions from lawyers. We suggested that he add a little sodium bisulfite to redress the redox balance *leuco*wards. Now Mr. MacPhail reports he is all set again.

Yes, and if you want the balance the other way we can supply Malachite Green Oxalate (*Eastman 1264*). *Among 3500-odd organics, the chance of finding what you want is encouraging. All from Distillation Products Industries, Rochester 3, N. Y. (Division of Eastman Kodak Company).*

Are YOUR highlights washed out?



Just as some fortunate people are able to turn the pages of a Brahms score and hear the lovely music in the mind, so also a few (perhaps not quite so fortunate) can look at this curve and say, "Yup, a good long straight-line portion and then, as you go to your higher densities, your contrast starts going higher and higher. That's funny. An H & D curve is supposed to have a shoulder. Where contrast falls off when you get past the straight-line part. This shoulder is inside out. *Kodak Gravure Copy Film*, eh? Ought to be good for making copy negatives from pictures where the highlights are washed out. You could get some of the old lost zip back. Why did they have to wait till now to come out with it?"

Because we didn't know how to make it properly till now, that's why. If you're so anxious, why don't you call up a Kodak dealer right now and order some?

Price quoted is subject to change without notice.

This is one of a series of reports on the many products and services with which the Eastman Kodak Company and its divisions are . . . *serving laboratories everywhere*

Kodak
TRADE-MARK

Equipment News

■ DRYING OVEN for vacuum or controlled-atmosphere treatment of semiconductors and other materials at temperatures from 35° to 200°C is particularly adaptable to drying and aging transistors. No copper or lead is used in the vacuum system. The oven is of forced-draft design with heating element and fan at the rear of a steel-enclosed, insulated chamber. When the door is open, three heavy-walled aluminum compartments are exposed. These vacuum chambers are stacked one above the other, each sliding on its own shelf. (Optical Film Engineering Co., Dept. Sci., 2731 N. 6 St., Philadelphia 33, Pa.)

■ RADIATION ANALYZER used in the radioisotope laboratory for gamma-ray spectrometry permits counting a single gamma-emitting isotope in the presence of other radioisotopes, identification of unknown gamma-emitting isotopes, and routine screening of radioactive tracers for determination of purity. (Nuclear Instrument and Chemical Corp., Dept. Sci., 299 W. Erie St., Chicago 10, Ill.)

■ SPECTROGRAPHIC SUPPLIES are the subject of a new brochure that includes information on pure materials and alloy standards, plates and films, and graphite electrodes and powders. (Jarrell-Ash Co., Dept. Sci., 26 Farwell St., Newtonville, Mass.)

■ WATER PURITY CONTROLLER automatically regulates the purity of distilled water. It is adjustable on a scale of 0 to 15 parts per million. The electric resistance of the distilled water determines whether it will enter the storage tank. The unit includes purity meter, continuous-flow cell, thermometer, threaded-glass conductivity cell, signal light, automatic diverter valve, and fittings for effluent line. (Barnstead Still and Sterilizer Co., Dept. Sci., 2 Lanesville Terrace, Forest Hills, Boston 31, Mass.)

■ CATHODE INTERFACE-RESISTANCE TESTER measures interface resistance of vacuum tubes resulting from oxide formation under cathode coatings. The instrument utilizes the Wagner two-frequency method, with a sensitive vacuum tube voltmeter circuit to compare interface resistance with a known resistance. Changes as small as 1 ohm/1000 ohm can be measured with an accuracy of ± 2 ohm, or ± 3 percent, whichever is greater, over a range of 0 to 1100 ohm. (Manson Laboratories, Dept. Sci., 207 Greenwich Ave., Stamford, Conn.)

■ BINARY SCALER that is designed for use with Geiger or fast scintillation detectors has a resolving time of 1 μsec, permitting its use with radiation detectors whose basic resolving time is 1 μsec or less. The instrument will provide a coincidence loss of less than 1 percent for an average counting rate of 600,000 count/min. A chassis switch has been provided that decreases the resolution time to 5 μsec when the scaler is used with Geiger counters whose recovery time is approximately 50 μsec or more. Eight scaling stages provide a scaling factor of 256, followed by a 4-digit, electrically reset register. (Chemical Corp., Dept. Sci., 229 W. Erie St., Chicago 10, Ill.)

■ ALKYD RESIN DISPERSION containing semicolloidal graphite that forms a durable, corrosion-resistant, dry lubricating film, is included on a revised list of dispersions issued by Acheson Colloids. Carriers and diluents are given for dispersions of graphite, molybdenum disulfide, mica, vermiculite, zinc oxide, and acetylene black. (Acheson Colloids Co., Dept. Sci., Port Huron, Mich.)

■ ALIGNMENT INTERFEROMETER measures changes in arc angle to 1×10^{-6}-in. accuracy. The instrument is a double-beam interferometer built to detect small changes in angle through a total arc range of 30 sec. In operation, light beams from within the main body are reflected back from a mirror that can be located as much as 14 ft away. The range is graduated at ± 15-sec intervals around a central zero point. (Bausch and Lomb Co., Dept. Sci., 635 St. Paul St., Rochester, N.Y.)