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SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Model Satellite

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A SCIENCE SERVICE PUBLICATION

Kodak reports to laboratories on:

how far we've come from camphor . . . how come we tout another manufacturer's camera . . . coloring a mental image

Soft vinyl, soft arteries

At this year's National Plastics Exhibition we exhibited the latest triumph in the continuing effort to find something more elegant than burning to do to the hydrocarbon gases that issue from holes drilled in the ground. Perhaps an important new direction has been given to plasticizers, substances that make plastics plastic.

The new twist is a practical plasticizer that is itself a high polymer (molecular weight about 1200). To him who first cries "So what?" we retort that our new polyester of a dibasic acid with neopentyl glycol (a trivial name for 2,2-dimethylpentane-1,3-diol, made by condensing formaldehyde with isobutyraldehyde from our Texas petrochemical operations) resists hydrolysis and stays put in vinyl films, come weather, aggressive hydrocarbons, or soapy water; that with no auxiliary plasticizer it keeps vinyl sheet palely clear and softly flexible, even at low temperature; and that it "mills in" rapidly during compounding with vinyl resins.

Eastman Polymeric Plasticizer NP-10 it is designated. Samples, data, and quotations are available from Eastman Chemical Products, Inc., Kingsport, Tenn. (Subsidiary of Eastman Kodak Company). To come up with something like this is a comfort because it suggests that a corporation can attain venerability in a field, unaccompanied by hardening of the arteries. More than 70 years ago, when we became involved in an attempt—successful—to extend photography from plates and paper to film, nitrocellulose was the only plastic and camphor was its plasticizer.

Out on the ghostly curve

If called upon to explain how come the world's best known camera manufacturer spends money in this space to tout another manufacturer's camera, we would argue thus:

The new "Graphic 70" is a military combat camera now available to whoever can spend \$1850. Doubtless \$1850 hand-held still cameras are harder to sell to civilians than \$1850 automobiles. On the other

hand, Graflex, Inc., has built quite a camera there and has done so on a basis more solid than to satisfy an occasional whim for conspicuous consumption. The principle is that when a man is trying to get some useful pictures at grave risk to his life, a thousand dollars one way or the other is a small price to pay for mechanical and optical refinements that may boost his chance of success a percent or two. In non-military affairs, where calculations happily involve only money instead of lives, situations are also encountered where good sense dictates a position very far out along the ghostly curve connecting quality of equipment with probability of success.

So Graflex builds a 5-pound camera to use our new faster, finer-grained films in the 70mm width that requires little enlargement. The most elaborate optical and mechanical precautions are taken to locate the film in relation to the lens. This is worth doing because of the lenses used on the "Graphic 70." They are the result of taking a generation to build up a strong organization in optical research, design, and manufacturing, then handing it the assignment to produce a 4-inch, an 8-inch, and a 2½-inch lens that will do the best job of putting down a 56mm by 72mm image that the current state of knowledge in optics permits.

And what does it say on the lenses? It says *Kodak Ektar*.

Those interested in the "Graphic 70" camera can learn more by writing Graflex, Inc., Consumer Correspondence Department, Rochester 8, N. Y. Those who wish they had an optical organization like ours to whom to hand design or manufacturing problems can write to Eastman Kodak Company, Apparatus & Optical Division, Rochester 4, N. Y.

"I have a photo here"

You will find within the next couple of years that the mental image created by the word "photograph" will have altered. To think of a photograph as a piece of paper bearing

a representation in tones of black, white, and grey will be like calling a man who flies an airplane an aviator or picturing a professor as bearded—perfectly proper but no longer general. The photographs that you file as records of work and observations and the photographs you pull out of your billfold at postprandial bull sessions will, in general, be in full color.

Here is what has been happening:

1) This year a new *Kodacolor Film* came out. It is as sensitive as the popular variety of black-and-white snapshotting film used to be not so long ago. It works equally well for daylight and clear flash without filters. It gives negatives from which can be made color prints and enlargements that you look *at*, not through.

2) There is now a *Kodak Color Print Material, Type C*. Prints made on it from Kodacolor negatives have the same color quality as used to be obtained only through vastly more involved techniques.

3) Processing chemicals for both the film and the print material are available in kits from all Kodak dealers. Quality of results tends to run commensurate with the degrees of care, zeal, and skill generated by the worker's needs or the hobbyist's self-fulfillment urge.

4) The fellow who, during the Great Depression, had some "Films Developed, Printed, and Enlarged" signs printed and placed in drug stores around town no longer operates from his kitchen. For the convenience of those who would just as soon not do it themselves, he has gone into color. To compete on both quality and price he finds it wise to own *Kodak Color Densitometers* and the like. His plant manager comes to Rochester for brush-up courses. He has met and mastered a complex technology, and he is determined to convince you that its product has it all over the monochromatic view of things.

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
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SCIENCE CLUBS OF AMERICA

This is the way you can join. Each member belongs to a club. Each club has a sponsor—a science teacher, parent, youth leader or professional scientist. The sponsor affiliates the club (see the coupon below) and receives all the free materials from SCA to keep the club informed and functioning.

Clubs can be small or large; size ranges from 3 to 700 members; average is about 25. Your club can be for boys and girls of any age, in or out of school.

Sponsors and members plan their programs together to suit the age and science interests of the group. SCA gives you many suggestions on what to do and how to do it.

TWO NATIONAL EVENTS are held each year especially for members of SCA. Your club can take part in both of them now or when your members are old enough.

The **Annual National Science Fair** (started in 1950) is held each spring in a different city. The NSF has been to Philadelphia, St. Louis, Washington, D. C., Oak Ridge, Tenn., Lafayette, Ind., Cleveland, Ohio, and Oklahoma City, Okla. The boys and girls who show the best science exhibits in cooperating local science fairs get three-day all-expenses-paid trips to the National Science Fair, and a chance to compete there for honors and awards. Only sophomores, juniors and seniors in high school are eligible to go to the NSF but in most local science fairs boys and girls of all ages can compete for local honors. The host city for the NSF in 1957 is Los Angeles, Calif. In 1958 it is scheduled for Flint, Mich.

The **Annual National Science Talent Search** (started in 1942) is held each year for seniors in high school who want to compete for \$11,000 in Westinghouse Science Scholarships for their college education. Annually 300 are honored. Of these, 40 boys and girls, chosen as winners, also receive a five-day all-expenses-paid trip to Washington, D. C., to attend the Science Talent Institute; the 16th will be held in 1957. Experience in science clubs and participation in science fairs is great practice for those who are planning to compete in the STS when they are old enough.

16,000 Affiliated Clubs

... one third of a million boys and girls affiliated with Science Clubs of America in the United States and abroad.

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Adults, who want to sponsor a club, please sign below:
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If you do not have a club, and do not plan to form one, you may have a copy of the Handbook by sending your check or money order for \$1.00.

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