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SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Baby Mourning Doves

See Page 376

A SCIENCE SERVICE PUBLICATION

Kodak reports to laboratories on:

reviewing flames, fractures, and explosions... improving reticle yield...
a lightweight among the fats

Slicing time

If you would like to live over and over again a certain $\frac{2}{3}$ second sliced into 2,000 1.2- μ sec slices, we have just the ticket for you.

The *Kodak High Speed Camera*, we admit with no shame at all, is not highbrow instrumentation.* It is a 16mm movie camera designed for and widely used by practical men with practical manufacturing problems to solve and impatient production chiefs to keep happy. Its controls are relatively few and unimpressive. Aside from a few photoflood lamps and maybe a stand, there is little auxiliary equipment for the assistant photographic engineer to tote.

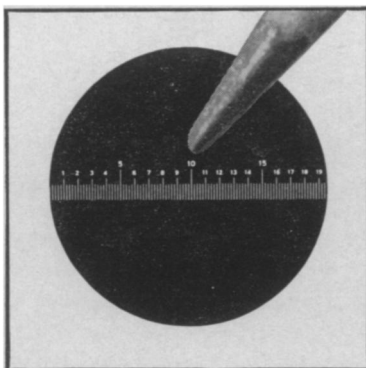
With such an unsophisticated approach, you get an exposure time for each frame that is always $\frac{1}{3}$ the repetition rate. Since the camera speed range is 1000 to 3200 frames per second, this means that the time available for smearing out the image is 63 to 200 μ sec. The distance moved by a machine part in this time, divided by the image-to-object size ratio, is rarely large enough for blurring.

Flames, fractures, and explosions are another matter. Here we do use extra equipment to illuminate the subject by repetitive flashes from a discharge lamp with enough output even for schlieren photography with the camera. A reluctance pickup gives a synchronizing pulse at the instant when each frame is in position. And that's how we get 1.2- μ sec shavings from big, fat 63 to 200- μ sec slices.

The distinguished high speed photographic pioneers, Edgerton, Germeshausen & Grier, Inc., 160 Brookline Avenue, Boston 15, Mass., make this stroboscopic auxiliary equipment for the Kodak High Speed Camera. It is to them we suggest inquiries on this matter be directed. For a booklet on the camera itself, write Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

*Nevertheless, we venerate highbrows, particularly for what they do with our film.

The uses of immodesty



That is an ordinary pencil point you see over this reticle, which was made to go into the eyepiece of an optical instrument. As reticles go, it's a rather fine one but very far from crowding the more than 1,000-line-per-millimeter resolving power which we quote for the *Kodak High Resolution Plate* on which the reticle was made. For a visual conception of 1,000 lines per millimeter, imagine nearly twice as many lines as seen on the above reticle—inscribed across the diameter of the dot on this "i."

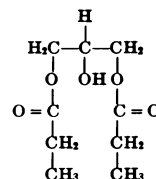
Note we say "more than" 1,000 lines per millimeter. We have never been able to devise a situation that drives the resolving power of these plates to its inherent limit. It's too difficult to form and lay down an optical image that fine. The widths of lines or spaces in such a pattern would equal the wavelength of blue light itself!

We crow so because we have just set up new and costlier manufacturing and inspection facilities for *Kodak High Resolution Plates* in order to keep them freer of scratches and specks than was possible when they were known as "Type 548-GH" and were worked in with the production of experimental plates. The special facilities should result in higher yields of high-quality reticles, but they must be kept busy or it's no go. Therefore, we crow to attract more users so that we shall

continue to have something to crow about. (Business, too, has its subtleties. Everybody gains, nobody loses.)

If you have use for such plates, write for details to Eastman Kodak Company, Special Products Sales Division, Rochester 4, N. Y.

Artificial fat



To one on the threshold of an investigator's career, what a chance *Dipropionin* offers to flex the muscles and dry the wings!

Think of it! A most unnatural fat, obtainable, so far as we know, from no other source on land or sea! In this newly added Practical Grade Eastman Organic Chemical (Eastman P7041) he will find mono-propionins, dipropionins, and tri-propionins, in which the dipropionins take the lead, with glycerine and propionic acid far in the rear.

As a partial glyceride, *Dipropionin* might be expected to have interesting interfacial properties. It is notably less miscible with water than is *Diacetin* (Eastman P85). With these physical properties and the odd-length carboxylic chain giving rise to inimical metabolic intermediates, an investigator might look for biological action much different from that of better known fats. In fact, we have a suspicion (only a suspicion, we repeat) that this is a likely place to look for highly reactive free propionyl radicals.

Whether the radicals are free or not, the mobile liquid they may or may not come in costs \$6.10 for 100 grams. Our List No. 39 of some 3500 organic chemicals we stock is free. You get the chemical or the catalog from Distillation Products Industries, Eastman Organic Chemicals Department, Rochester 3, N. Y. (Division of Eastman Kodak Company).

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
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