

gested, thus enabling the police to begin a search for the scene of a crime. Or, X-ray diffraction methods and X-ray spectrography may provide the essential evidence.

Another example is the cooperative project in which Dr. Herbert Friedman of the Smithsonian Institution is working with biochemists and others on the physiology of the honey guide bird. This may result in a method for breaking down the protective waxy coating of some bacteria.

Collecting new specimens continues to be an important museum activity. Museum-supported expeditions explore many of the exotic regions of the world, bringing back some of it for the stay-at-homes.

Today no one can criticize our museums as mere curio shops. They are dynamic institutions, actively seeking knowledge and better ways to communicate their findings to us on those days when we wander through their gay, bright halls.

Science News Letter, August 8, 1959

ENGINEERING

Pills for Rockets May Mean More Thrust

PILLS for rocket engines could help cure a costly "disease": corrosion.

Untimely chemical reactions in both liquid and solid rocket fuels could be avoided by putting special fuel additives in capsules. Proposed additives include oxidizers, to give more power to the engine, and "dampers," to control the rate of fuelburn. Some reactive chemicals are now avoided because they will eat out the insides of rockets.

By putting them in capsules, the Southwest Research Institute, San Antonio, Texas, reported, the disease of corrosion might be overcome. To achieve this goal, SRI scientists have developed two ways to make pills. Some as small as pinheads, the capsules use magnesium, aluminum, glass and paraffin for "skins." (Gelatin is used for medical pills.)

A gravity feed apparatus is the basis for the first manufacturing technique. The film, or encapsulating material, and the filler flow into a chamber where the film material spreads across an opening. The film deforms under the weight of the filler and finally falls through the hole. Surface tension of the film shapes the capsule into the proper form.

A nozzle device makes smaller capsules. Here, the combined film and filler material is flung against the hardening bath which covers a rotating wall. Changes in the size of the nozzle opening and the speed of rotation make it possible to vary the size of the capsules.

Science News Letter, August 8, 1959

CHEMISTRY

Molten Salts Suggested For Reactor Fuel

A BETTER FUEL for high temperature nuclear reactors than the uranium metal rods now in use may be uranium salts which are mixed with other molten salts.

So says Dr. Haakon Flood of Norway, an authority on molten salt chemistry, basic also in metallurgy and ceramics.

He is visiting professor of engineering at the University of California, Los Angeles, and also serving as adviser to American atomic installations on chemical problems of fueling reactors with uranium salts.

He explains that uranium metal rods have two major disadvantages. They lose their shape when exposed to radiation from the fission process. And they do not work continuously, since the rods have to be taken out of the reactor to remove impurities caused by fission products.

Reactors using molten uranium salts may overcome these disadvantages. The salts, in liquid form, do not change shape, and can be continuously purified by a cycling process, in which the liquid is pumped out, purified and returned to the reactor.

On the other hand, the use of molten salts raises some new problems, such as finding the proper material for the salt containers. Important investigations along these lines have been reported by the Oak Ridge laboratories.

During the fall semester, Dr. Flood will teach a special UCLA course in high temperature salt chemistry. In his own country, he is professor of inorganic chemistry at the Norwegian Institute of Technology, and head of the Institute of Silicate Science.

Science News Letter, August 8, 1959

MEDICINE

Non-Drinking Moslems Develop Liver Cirrhosis

MOSLEM MEN and women of the Sahara desert develop cirrhosis of the liver at an early age despite the fact that these people do not use alcohol.

These persons also had more than their share of liver cancer, a team of investigators report in the University of Chicago Press's *Cancer Research* (July).

A total of 238 Negroes from French West Africa were found to have cirrhosis of the liver. Cancer of the liver was found in 104 of these individuals.

The average age of the cirrhotic group studied, the majority of whom were Moslem, was 34.6 years. Females appeared to be less prone to the disease, but this may be due to the fact that females are less likely to go to a hospital than males. Curiously enough, those patients with both cirrhosis and cancer of the liver lived longer than did those with cirrhosis alone, Dr. Paul E. Steiner of the University of Pennsylvania points out.

He reasoned that the person whose liver ceases to function will die soon, while the person with a healthier liver may live longer, during which time the liver may also develop cancer.

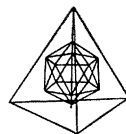
An additional 238 cases were studied for cancer of the liver. Some of these had cirrhosis. But the scientists found cirrhosis did not aid the development of cancer. Malignancies occurred as early, if not earlier, in the noncirrhotic liver, they emphasize.

The average of the victim of cancer of the liver was 36 years. They offered no reason for the development of cirrhosis in these Africans.

Drs. Robert Camain of the Institut Pasteur, Dakar, and J. Neuk of the Hopital le Dantec, Dakar, French West Africa, assisted Dr. Steiner.

Science News Letter, August 8, 1959

OPTICAL BARGAINS



D-STIX CONSTRUCTION KITS

Visualize Ideas Fast!

Newest, handiest visualizing and demonstration tool for teachers—elementary, high school or college. Colored wood sticks $\frac{1}{8}$ " thick and "easy-on" rubber joints approx. $\frac{3}{16}$ " diam. fit together quickly to form all kinds of simple or complex shapes, structures. Ideal for teaching mathematics, chemistry, physics, design, engineering, architecture, abstract art—for developing children's interest in form and structure. Work out geometric figures, molecular structures, structural members, configurations and perspectives, models of many types. 3-dimensional visualization adds interest—speeds understanding. Used by professional planners, designers, architects. Money-back guarantee.

Stock No. 70.209-Q (230 pcs).....\$3.00 ppd.
Stock No. 70.210-Q (370 pcs).....\$5.00 ppd.

BARGAIN-PRICED STETHOSCOPE

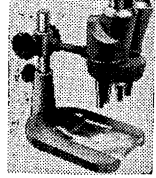


For Hobbyists, Schools

A real stethoscope at half the usual cost! Ideal for home craftsmen, hobbyists, schools, children. Listen to running machinery. Check on hard-to-hear motor noises, leakage of gas, air or fluid. Pick up heart beats of animals, insect noises, other "unhearable" sounds. Splendid for experiments, classroom use, animal husbandry. Hours of educational fun for adults, students and children. Excellent for auto repair, do-it-yourself projects. Sensitive, yet sturdily made to stand hard use. Money-back guarantee.

Stock No. 50.223-Q.....\$2.95 postpaid
Order by Stock Number. Send Check or M.O.

STEREO MICROSCOPE



Over 50% Saving. Up to 3" Working Distance—Erect Image—Wide 3 Dimensional Field. Used for inspections, counting, checking, assembling, dissecting. 2 sets of objectives on rotating turret. Standard pair of wide field 10X. Kellner Eyepieces give you 23 power and 40 power. Helical rack and pinion focusing. TEN-DAY TRIAL!

Order Stock No. 85-056-Q
Full price.....\$99.50 f.o.b. Barrington, N. J.

NEW BINOCULAR-TO-CAMERA HOLDER

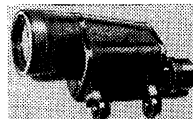


For Exciting Telephoto Pictures

Bring distant objects 7 times nearer with a 35 mm. camera, 7x50 binocular and our NEW BINOCULAR-TO-CAMERA HOLDER. Ideal for long-range shots of wild life, ships, planes, people, etc. Camera and binoculars attach easily. Use any binocular or monocular—any camera, still or movie. Take color or black and white. Full directions for taking telephotos.

Stock No. 70.223-Q.....\$11.50 postpaid

Take Telephoto Shots Thru 7x50 MONOCULAR



This is fine quality, American made instrument—war surplus! Actually $\frac{1}{2}$ of U.S. Govt. 7x50 Binocular. Used for general observation both day and night and to take fascinating telephoto shots with your camera. Brand new, \$95 value. Due to Japanese competition we close these out at a bargain price. Directions and mounting hints included.

Stock No. 50.003-Q.....\$15.00 Postpaid



TWO-STAGE ROCKET TOY—

Simple, safe—demonstrates principles of jet rockets. Uses water and air as fuel. First stage soars up 200 to 300 ft.—then 2nd stage is automatically released, going still higher. A 2nd stage satellite is also included and may be substituted. Made of Butyrate plastic. Set includes fuel supply tank and air injection pump.

Stock No. 70.157-Q.....\$2.98 pstpd.

FREE CATALOG-Q

100 Pages! Over 1000 Bargains!

America's No. 1 source of supply for science experimenters, hobbyists. Complete line of Astronomical Telescope parts and assembled Telescopes. Also huge selection of lenses, prisms, war surplus optical instruments, parts and accessories. Telescopes, microscopes, satellite scopes, binoculars, infrared sniperscopes, items for making "Science Fair" projects, math learning and teaching aids. Request Catalog Q. Order by Stock No.—Send Check—Satisfaction Guaranteed.



EDMUND SCIENTIFIC CO.
BARRINGTON, NEW JERSEY