PHOTOGRAPHY

Full Color Prints Now Available to Amateurs

FULL color prints can now be made from the usual Kodachrome transparencies. This has been the desire and dream of camera addicts ever since the introduction of the Kodachrome process in 1936.

These prints for amateurs are enlarged from either 35 millimeter or bantam size Kodachrome transparencies. Enlargements of twice and five times original size are available.

The Minicolor print has the feel of a fine playing card. However, the print support or base is not paper or card but pigmented cellulose acetate, the stuff of which safety films are made. The prints are doubly varnished; hence they are very durable and can be carried in the pocket without injury.

Professional grade prints are offered, under the trade name "Kotavachrome." These can be had in sizes up to 30 by 40 inches, a size never before successfully obtained in full color prints.

The Eastman Kodak Company warns that while the dyes used in these color prints are as stable as possible, consistent with their other requirements, they cannot be guaranteed not to change. The prints, they say, should not be exposed for long to direct sunlight.

At present both the amateur and the professional prints are made at Rochester.

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AGRICULTURE

Peaches From Pits in Two Years By New Method

FROM pits to peaches in two years is the record achieved by scientists in the University of California College of Agriculture.

Dr. W. E. Lammerts of the University of California faculty has devised a new method of speeding up nature's normal growth processes, which he calls embryo culture. Kernels are removed from the hard pits and soaked in a nutrient solution of agar, sugar and vitamin B_1 for three weeks. They sprout rapidly with such coddling and are then removed to clean washed sand, where they are kept moist for three weeks longer. Seedlings are by then large and husky enough to be placed in soil-filled pots. By the time they are nine months old, they are ready for field planting, and by their second birthday the young trees are the proud producers of fine peaches.

"The significant facts about speeding up nature's normal routine," said Dr. Lammerts, "is that the two-year breeding cycle makes it possible to study such characteristics as skin and flesh color, free or clinging pits, and chilling requirements. Accordingly, undesirable seedlings may be removed and self and back-cross pollinations may be made every two years—all of which in the long run, will mean bigger and better peaches for the consumer."

Dr. Lammert's experiments have been carried on for about five years at the Armstrong Nurseries in Ontario, Calif., near Los Angeles. Over 5,000 cross-pollinated seedlings have been grown and studied in that time. The embryo cultured seeds have a much higher percentage of germination than may be expected from ordinary sprouting methods.

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MEDICINE

Certain Local Anesthetics May Check Sulfa Drugs

SURGEONS spraying or dusting sulfanilamide or related chemicals on wounds to check infection may find the sulfa drug ineffective if novocaine, procaine, or chemically related local anesthetics have been used before the operation or before dressing the wound. Local anesthetics of the novocaine type, derived from para aminobenzoic acid, partially or completely blocked the germ-checking action of sulfapyridine and sulfathiazole in test tube experiments reported by A. K. Keltch, Linville A. Baker, M. E. Krahl, and G. H. A. Clowes, of the Lilly Research Laboratories, to the Society for Experimental Biology and Medicine.

Local anesthetics that were not derived from para aminobenzoic acid did not show any antagonism to the sulfa drugs tested.

The antagonism between para aminobenzoic acid itself and sulfapyridine and sulfanilamide in test tube experiments was discovered by a British scientist, D. D. Woods. The fact that the sulfa drugs are being increasingly used both on the wound and by mouth in war wounds and other types of surgery in which local anesthetics are commonly used at the same time, led the Indianapolis scientists to investigate the effect of various anesthetics on the action of the sulfa drugs.

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IN SCIEN

BOTANY

End Sterility of Flowers To Their Own Pollen

FLOWERS unable to produce seed when self-pollinated can be made self-fertile by spraying their flowers with a solution of alpha naphthalene acetamide, reports Dr. William H. Eyster of Bucknell University. Dr. Eyster was able to obtain good crops of seed from a very desirable but self-sterile new variety of petunia by this treatment, and has conducted sufficient experiments on other plants to convince him that the method is of general value. (*Science,* Aug. 8)

Self-sterility in plants that ordinarily reproduce by means of seed is a great annoyance to florists and seedsmen, because it often frustrates their hopes of putting fine new varieties on the market. If you can't raise seeds, obviously you can't sell them. The new treatment therefore has practical value.

Dr. Eyster found, in the case of his petunia, that the ovary, or seed-producing part of the flower, interfered with fertilization by secreting some substance that prevented the normal functioning of the pollen. The chemical spray (which is very dilute, 10 parts of the compound to a million of water) apparently destroyed this inhibiting substance or at least prevented it from acting.

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ENTOMOLOGY

More Than a Million for Defense Against Mosquitoes

MORE than a million dollars — $1,192,000, to be exact—will be spent during the coming twelve months on anti-mosquito defense in and around the 53 major military areas where U. S. troops are quartered, the *Journal of the American Medical Association* states. (Aug. 9)

A little over a third of the total sum will be used by the medical department, the remainder by the quartermaster department. The work will be done by civilian specialists and laborers, under the direction of 87 sanitary engineers, all of them mosquito eradication experts.

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CE FIELDS

MEDICINE

Use Plastic Surgery In Removing Tonsils

NOW it's plastic surgery for the tonsils instead of the old rough-and-ready tonsil-snatching operations generally frowned on by modern physicians.

With one and one-half minutes of deft work, after the tonsils are out, the surgeon can cut and turn back a flap to cover the sore spots on the throat, Dr. Robert H. Fowler, of New York, declares in reporting this new style tonsil removal. (*Journal, American Medical Association,* Aug. 2)

"The patient eats breakfast the next morning," he reports. "The time for the wound to cover over is lessened by half, and the amount of scarring is almost nil."

The patient is no longer required to suffer great pain and endure a 10-day period of discomfort and soreness because he does not have, as formerly, "a large open wound set to catch food and become infected."

The plastic operation can be done with either local or general anesthetic. It is more difficult in small children, Dr. Fowler points out, and the surgeon must have a clear understanding of the anatomy of the tonsillar region of the throat and of the technic of the operation in order to achieve success.

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MEDICINE

Army Makes 8,500 Gallons of Typhoid Vaccine

TYPHOID vaccine production is big business at the Army Medical School in Washington. During the fiscal year, recently closed, the turnout was 33,500,000 cubic centimeters, or about 8,500 gallons, representing more than an eightfold increase over the previous year. This is enough vaccine to provide over 8,000,000 "triple-shot" courses. By making its own vaccine, the Army saved the government $1,540,000 over what it would have cost at the regular market rate.

Besides giving all soldiers in the Army protection against typhoid, the medical department is furnishing vaccine to other government departments, including the U. S. Public Health Service, the Navy, the Civilian Conservation Corps, the Department of Justice, the Indian Service, the Veterans' Administration, the Government of Puerto Rico and many others. Stock culture for the vaccine has also been furnished on request to other nations in the Western Hemisphere.

All the vaccine is based on germs taken from the body of one man, an immune typhoid fever carrier who lives in the Panama Canal Zone, and is kept under constant supervision by Army physicians. The cultures are preserved in glass tubes, superfrozen at a temperature of 108 degrees below zero and sealed in a partial vacuum. In this state the cultures can be kept for long periods. The laboratory where the vaccine is made is the largest and most modernly equipped of its kind in the world.

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ENGINEERING

Warns Against Hurts from Diesel Oil Under Pressure

WARNING of the danger of serious accidental injuries from the high pressure oiling and greasing appliances now widely used in industry appears in a report by Dr. John E. Hughes, of Shawnee, Okla. (*Journal, American Medical Association,* June 28.)

The middle and ring fingers of a young oil field worker's hand had to be amputated because of gangrene following such an injury, Dr. Hughes reports. The worker had been cleaning the nozzle of a Diesel engine and had his left palm in contact or nearly in contact with the nozzle when his helper tripped the compressor. A little of the highly volatile Diesel oil, about one-half teaspoonful, was shot into the man's hand through the pin-point openings in the nozzle under such pressure that it penetrated the skin and tissues and caused the extremely painful and severe injury which resulted in the loss of two fingers.

This is not the first of such cases reported, Dr. Hughes points out. In one of the others the injury was caused "by a grease gun commonly used in garages to force grease and oil-laden graphite into spring shackels and other friction parts. This modern appliance," he comments, "is a far cry from the hand grease gun and screw grease cap in common use a few years ago."

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PHYSIOLOGY

Vitamin Enables Animals To Use Less Oxygen

OXYGEN starvation of the tissues can be fended off by injections of ascorbic acid, the vitamin that prevents scurvy, reports J. M. Peterson of the Physiology Institute of Cardiff, Wales. (*Nature,* July 19). One of his fellow workers, Dr. B. G. B. Lucas, put pairs of mice, one injected with the vitamin, the other without injection, into air at only about one-eighth of normal atmospheric pressure. The treated mice survived, while their companions died. The same result could be obtained with injections of the common dye, methylene blue.

While Mr. Peterson does not suggest applications of these findings to human beings, it seems possibe that injections or heavy feedings of ascorbic acid might be beneficial to aviators, mountain-climbers and other persons exposed frequently or for long periods to atmospheres too rare to yield a normal supply of oxygen.

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ENTOMOLOGY

First Frosts Bring Oriental Mantises

See Front Cover

BEFORE long, as first hints of frost get into the autumn air, you will see these great, spectral-looking insects, the Oriental mantises. They've been all about during the summer, stalking their insect prey in the trees and shrubbery, but they have kept out of sight. As the days shorten and the nights grow cool they forsake their seclusion and take to wandering. They even turn up in the middle of great cities.

There is a native American mantis, a much smaller insect that most of us seldom see at all. This giant relative is a native of eastern Asia, and was brought to this country many years ago. It is (for a wonder!) a beneficial insect rather than a pest, for it is highly carnivorous, feeding on grasshoppers and other undesirables. Incidentally, the females also eat their mates; nothing is wasted in the mantis world. All the specimens you will find will be females.

The photograph on the front cover of this week's SCIENCE NEWS LETTER was taken by George A. Smith of Quarryville, Pa.

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