

PHOTOGRAPHY

You Can Make Color Pictures With Your Roll-Film Camera

New Kodacolor Film, When Processed by Manufacturer, Gives Color Negatives From Which Prints Are Made

BEAUTIFUL natural-color photographs which can be held in the hands or placed in an album are now within the reach of the amateur snapshotter equipped with any kind of roll-film camera.

This was revealed with the announcement at the Franklin Institute by Dr. C. E. K. Mees, Eastman Kodak research director, of a new Kodacolor roll-film produced by the Eastman Kodak Company.

Home picture takers are already familiar with color pictures. But for the most part they have had to be content with color movies or transparencies which can be shown only when projected onto a screen. Color prints could be made from these only at considerable expense and some uncertainty of the outcome. The film would fit only some cameras, usually expensive ones.

Now even the small boy or girl with a box camera can snap pictures with the new Kodacolor film, which will be available in six standard sizes.

The film must be returned to the manufacturer for processing. When it comes back to the photographer, he will have a set of color negatives—not color transparencies as in the Kodachrome now available for 35 mm. cameras. Light areas of the subject will appear dark in these negatives, and dark areas, light. The colors also will be in reverse—that is, they will be complementary to those in the actual subject. A red sweater, for example, would be a blue-green in the negative.

With these color negatives, the photographer receives full color prints on paper. The total cost will average about seventy cents for each picture.

The new Kodacolor film, like its predecessor the Kodachrome, is a sort of photographic layer-cake of color-sensitive emulsion layers. In the Kodacolor process, however, the "couplers" in which the color image is formed are not dissolved in the emulsion layers themselves, but in particles of organic materials of microscopic size which protect them from the gelatin and, at the same time, pro-

tect the silver bromide from any interaction with the couplers. When the film is placed in the developer, the oxidized developer penetrates the particles and there reacts with the coupler to form the dye.

There are three of the emulsion layers and also a yellow filter layer on the film. The developer in which it is processed acts simultaneously on all three couplers, producing a dye image in each layer.

When the finished negative is printed on a paper coated with a similar set of emulsions, the resulting color print has the colors of the original subject.

The new Kodacolor film is entirely different from the Kodacolor process used some years ago by Kodak and now obsolete.

Science News Letter, December 27, 1941

● RADIO

Saturday, January 3, 1:30 p.m., EST

On "Adventures in Science," over Columbia Broadcasting System, Watson Davis, director of Science Service, will give the highlights of the scientific meetings held during the Christmas holidays.

Listen in each Saturday.

Monday, December 22, 9:30 p.m., EST

Science Clubs of America programs over WRUL, Boston, on 6.04 and 11.73 megacycles.

One in a series of regular periods over this short wave station to serve science clubs, particularly in high schools, throughout the Americas. Have your science group listen in at this time.

POPULATION

Birth Rate Is Up, Death Rate Unchanged

AMERICA's birth rate is on the increase, the current vital statistics bulletin of the Commerce Department reveals.

Provisional figures for the first nine months of 1941 for 43 reporting states and the District of Columbia show a crude birth rate increase over the same period last year from 17.9 to 18.9 per 1,000 population.

The crude death rate for October, 1941, for the same states was constant at 9.8 per 1,000 population as compared with October, 1940.

Science News Letter, December 27, 1941



POWER TO BE

This 130,400-pound cast iron turbine base is photographed on its way to the Philadelphia Electric Company to step up power for defense industries and other consumers in that area. It was moulded at the Westinghouse Trafford foundry.