



CHINESE OGRE—One of the enormous but still evidently human teeth dug up by Dr. R. von Koenigswald in a Chinese apothecary's shop is shown at the left, and for comparison molars of gorilla, Peking man and modern man. The big tooth has six times greater volume than the modern one.

"walking rehearsals" in the foreign language, were sometimes given.

While the main purpose of the ASTP in foreign language was to teach trainees to speak and understand the language, they learned to read as well, the committee reported. But reading in this case means reading for the ideas in the text, not translating.

Dean Henry Grattan Doyle of the George Washington University in Washington, directed the survey group. Members of the group were chosen for

their competence in several foreign languages, successful experience as teachers, good judgment, and freedom from prejudice in favor of any particular teaching method. Others in the survey group included Drs. Frederick B. Agard, Princeton University; Robert J. Clements, Harvard University; William S. Hendrix, Ohio State University; Elton Hocking, Northwestern University; Stephen L. Pitcher, St. Louis Public Schools; and Albert van Eerden, Princeton University.

Science News Letter, July 1, 1944

CHEMISTRY-PHOTOGRAPHY

Color Film For Public

Processing of this film can be done at home in 90 minutes, with only 15 minutes in the darkroom. It is available in sheets and 16 millimeter movie film.

➤ A NEW COLOR film that can be processed in the home in 90 minutes with only 15 minutes in the darkroom is now available in New York City to the general public in sheet film and 16 millimeter movie film. Distribution will be expanded to other parts of the country as rapidly as possible. Until now the film has been made exclusively for the Army, Navy and war industries.

The new film, developed by the Ansco Corporation, is based upon the original Fischer patents. These patents advanced the theory of colorless dye-forming substance as a part of the emulsions, the substances forming their own dyes upon reaction with a color-developing fluid. The tendency of the color-formers to diffuse

through the three emulsions led to the virtual abandonment of the process.

Ansco color film reproduces color images through what is called subtractive color synthesis. It is based upon the theory that almost all colors can be reproduced by re-establishing a proper ratio of the blue, green, and red rays reflected from the object photographed. The film is composed of three layers of photographic emulsion. In the top layer, light-sensitive silver halide crystals, common to all photographic emulsions, record the blue light reflected from the object photographed. In the middle layer, the silver halide crystals are sensitive to blue and green, and in the lower layer they are sensitive to blue and red.

A yellow filter layer, between the top and lower two emulsions, stops the blue rays from progressing farther after making their record on the top emulsion. Therefore, the green rays reflected from the photographed object are recorded on the middle emulsion and the red rays on the lower without the blue coming into play.

Using the special color developer, the amateur photographer then brings out the positive color images in the three emulsions. Photographic prints can be made from these color negatives by the usual three-color separation method. At some future time, it may be possible to simplify the printing of three-color pictures by using printing paper which is essentially the same as the new color film.

One other advantage of the new color process is the fact that after the first 15 minutes of the developing period, the film may be stored or shipped and processing completed at some future time. This enables a photographer quickly to check his color pictures as he makes them, leaving the longest part of the developing process until some later time.

Other processes by which color pictures can be made today are the Kodachrome process of the Eastman Kodak Company, which is similar to the new Ansco color film but which cannot be processed in the home; the wash-off relief process; the Carbro process; and the Finlay process. Kodachrome and Ansco color film are the most satisfactory from the amateur photographer's standpoint since they require no specialized training in handling, and may be used with most cameras.

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INVENTION

New Flying Bulldozer Can Alight on Water

➤ A FLYING bulldozer is the ambitious invention on which E. W. Austin of Cedar Rapids, Iowa, received patent 2,351,799, which he assigned to the La Plant-Choate Manufacturing Company. The earth-working machine, a necessity for the quick development or repair of wartime landing areas, is suspended beneath the plane, and is equipped with removable floats so that it may alight on the water. Once it has crawled up on shore, a take off from the plane's rear-placed engine supplies power for the tractor treads.

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