

TELEVISION

New Color Television

Electronic television, now successfully established in principle, awaits manufacture of transmitters and stations before available to the public.

► COLOR television by an all-electronic means is now a fact. It is a complete departure from television in mechanical color which has been shown in various forms during the past few years.

It uses a color-slide television camera, developed by the Radio Corporation of America, which produces signals from 35-millimeter Kodachrome slides. Transmission of the picture on the slide is achieved in natural colors when a light beam from a kinescope is focused through the slide and separated into component colors by a system of mirrors and photo-electric cells.

Each of the three transmitted images, red, blue and green, is of the same number of lines, 525; also the same horizontal scanning rate and the same picture repetition rate of 30 pictures a second as in present commercial television broadcasting.

The receiving set has three kinescopes, which separately receive the signals representing the three colors. From them the three color images are optically projected into a bright composite picture

which appears on a 15-by-20-inch screen in natural color.

Broadcasts from color stations using this electronic simultaneous system can be received clearly on present black-and-white receivers by the addition of an easily installed radio-frequency converter, RCA officials state. No modifications are required inside the set. The pictures will be received in black-and-white, however, not in color. It means that these black-and-white receivers are usable even if broadcasting stations transmit only the ultra-high frequencies of electronic color television.

It will take several years to establish electronic color television as a service to the public. The present equipment is experimental, but establishes the principle. Time will elapse before production of commercial transmitters and receivers can begin. Then broadcasting stations will have to be provided. The new RCA electronic color television system will be made available to the entire radio industry, David Sarnoff, president of the corporation, states.

Science News Letter, November 9, 1946

MEDICINE

Don't Overuse Nose Drops

► WITH THE WORST season for colds and sinus trouble approaching, many persons need to be reminded of the danger of abusing, or over-using, nose drops. Physicians call these drops nasal vasoconstrictors. The continued use of them is drug addiction, Dr. Clifford F. Lake of the Mayo Clinic declares.

Briefly, here is what happens. Nose drops, or nasal vasoconstrictors, relieve the stuffy, congested nose and let you breathe more comfortably by shrinking, or constricting, the blood vessels in the lining of the nose. If this constriction is a severe and prolonged one, as it can become from frequent, continued use of the nose drops, the process goes into reverse. The blood vessels are dilated and you can get a worse stuffiness and congestion than before.

At this point, the ignorant user of nose drops uses them more often and

perhaps even changes to a stronger kind. Soon, like the typical patient described by Dr. Lake, the nose gets into such a condition that it is necessary to put drops in every two or three hours. The victim of this nose drop addiction begins to feel he cannot get along without the drops, that he will be unable to breathe and sleep, and some even say that they will die.

If you get into this state, you should see a doctor without delay. He will doubtless advise you to stop the nose drops but he may give you something to help you sleep the first few nights because at first your nose will be stuffier than ever after stopping the nose drops. By the end of a week you should be breathing quite freely without them, unless there is some mechanical obstruction, which the doctor will search for.

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"TRINOSCOPE" — Heart of the RCA television receiver has three simple projection lenses through which images in red, blue and green appearing on three kinescopes beneath the lenses are projected in natural color on the screen at the top and front of the cabinet.

ENTOMOLOGY

Body Temperature of Grasshoppers Taken

See Front Cover

► TAKING A grasshopper's temperature may save thousands of dollars in the farmers' war against the pests.

Prof. J. H. Pepper and E. H. Hastings of Montana State College use a delicate electrical instrument, 5/1000 of an inch in diameter, to take a grasshopper's temperature as a part of a study of when and where the insects eat. A victim is pictured on the cover of this SCIENCE NEWS LETTER. This information will aid in locating poison bait where it will be most effective against the hoppers.

The scientists believe that a grasshopper's feeding habits depend on a relationship between the intensity of sunlight, the temperature of the air and the insect's body temperature. Experiments and studies of the effects of sunlight and air temperature were relatively simple, but a special thermo-couple had to be devised to get the body temperature of the grasshoppers. The device developed by General Electric engineers can be inserted into the grasshopper without damaging the specimen and minimizes the sources of error.

Science News Letter, November 9, 1946