



Changing Coats

SUMMER furs are commonly thought of as synonymous with feminine vanity: the animals that actually produce those furs sensibly wait until frosty weather before putting on their winter coats.

Yet a number of mink have been induced to change to winter-weight fur in the hot days of late summer, weeks ahead of their normal time, not by putting them in a cold place but by cutting down the number of hours of light in their day. Prof. Thomas Hume Bissonnette of Trinity College, Hartford, Conn., conducted the experiments.

In the experiment he had the collaboration of Everett Wilson, owner of a mink ranch at Somers, Conn. The two men put 16 minks in cages in a cellar, where the sole source of light was a window fitted with light-tight shutters. These were used to make each day artificially a little shorter than the day before, as becomes noticeable in nature with the coming of autumn. Fifty animals were kept outdoors under normal conditions, as controls.

The controls changed from summer to winter fur at the normal time, in October and November. Not all the experimental animals responded to the change in lighting, but six of them very definitely did. They had shed their summer fur and assumed winter coats before Sept. 18. One of them, a female, had made the change by Aug. 17, the hottest part of the summer. Other animals showed less complete coat changes, and some practically none at all.

Prof. Bissonnette states, in conclusion: "It is indicated that the assumption of winter prime pelt by mink may be induced in summer in spite of relatively high temperatures or hastened in au-

turn by reducing the duration of the periods of light (and/or its intensity) to which the animals are exposed daily. Reduced temperature is, apparently, at most, a minor factor in this reaction."

Science News Letter, July 15, 1939

PSYCHOLOGY

Mood Aroused by Music Is Linked With Color "Seen"

FIGURES of speech abound in mixtures of sensory experience—we speak of "hot music," "Blue songs," "loud suits," "tone pictures," "soft tones," "sweet melodies," and "dark brown tastes."

To some, these have more than figurative significance. The association of color and music seem particularly real to some who feel that a musical selection can actually be seen as a color or series or mixture of flowing tints.

Exploring this odd linking of the senses, Drs. Henry S. Odbert, Theodore F. Karwoski and A. B. Eckerson, of Dartmouth College, found that the mood evoked by a musical selection is related to the colors "seen" or associated with that particular composition.

The *Market Place*, from the Ravel transcription of Moussorgski's *Pictures in an Exhibition* was described by listeners as predominantly merry, agitated, or humorous. More than half the colors reported were light mixtures, reds and yellow.

The *Giant Motif* from Wagner's *Ring Cycle*, called vigorous, serious and sad is "seen" as black, purple or as color mixtures.

The Delius composition *On Hearing the First Cuckoo in Spring*, which arouses a mood dreamy and serene generally brought to mind light mixtures of colors, blues and greens.

Very different are the colors "seen" or thought of in connection with Wagner's *Rienzi Overture*. This vigorous, exciting composition makes the listener see red.

The Fafnir Motif from the Ring is very predominantly called doleful or gloomy, and the colors are also predominantly black.

Compositions suggesting many different moods to different listeners receive also many scattering color associations or reports only of mixtures.

Red, and orange, it was found, are generally passionate and exciting, pink is serene, yellow is humorous and gay, green and blue are dreamy, purple majestic, brown doleful, white spiritual, and black tragic.

Science News Letter, July 15, 1939

AERONAUTICS

Army Tries Four-Bladed Propeller For Planes

A U. S. Army Air Corps P-36 pursuit plane has been fitted with the first controllable pitch four-bladed propeller ever tried in the United States, engineers at the Air Corps' testing laboratories announced, in a study to find the propellers to go with giant airplane engines now under construction by leading manufacturers.

Performance of the radically new type of propeller will be compared with that of another unusual arrangement the Air Corps has been trying for more than a year: two "props" mounted in tandem on the same shaft and rotating in opposite directions, the Air Corps said.

As engines grow more powerful, larger and larger propellers of standard type have to be used. Unfortunately, engineers are finding several limitations to increasing the size of the present three-bladed propeller. In order to keep the speed of the blade tips below the speed of sound, the propeller must be turned over more slowly. In addition, small pursuit-type ships would require unwieldy landing gears in order to give the huge propellers proper clearance of the ground. Another objection to the continued growth of propeller diameters is the increase in weight of each blade.

A Curtiss electrical hub controls the four duralumin blades of the new propeller. Theory of the addition of blades, engineers explained, is that it increases the solidity ratio of the propeller for a given propeller diameter, thus giving more efficient operation for given power and diameter, especially at high altitudes. Propellers using even more than four blades are not considered an impossible development of the next few years. No comment on results of tests thus far conducted on the four-bladed propeller is available yet.

Science News Letter, July 15, 1939

UNUSUAL SCIENTIFIC DISCOVERIES

EASY EXPERIMENTS

Details on Soilless Gardening—Colchicine the chemical creator of huge new plants and giant flowers—Cure for near-sightedness—Growth Hormones — Sex hormone rejuvenators — Electric treasure finder—The unexplainable N'Goureyima meteor—etc.—are in Quest booklet No. 1. Special introductory off. r. 5 issues \$1.00 (send your check or dollar bill) sample copy 25c. Address Quest B-2, Wellesley, Mass.