

body paint used by primitive tribesmen, the modern war paint's chief purpose was camouflage. Since enemy air observers used cameras, strategic objects had to match their backgrounds on infrared film as well as to the naked eye. This meant devising a paint that would appear green to the naked eye but that, when photographed in infrared, would match chlorophyll, which comes out light on infrared film.

In war and peace, paint has been used since before the beginnings of recorded history. Stains from grasses and berries are used by present-day primitive tribes to symbolize their desires for rain, for abundant harvests or for victory in war. Early man may well have used them for similar purposes.

### Ancient Cave Paintings

The ancestors of modern man painted remarkably artistic likenesses of animals on the walls and roofs of caves in southern Europe 20,000 years ago. The crude paints were made of lampblack, ochre and iron oxide. Ancient men may also have experimented with mixtures of fat and wood ashes to paint their bodies against cold and insects.

Paint was widely used in the first record-keeping civilizations, since colored compounds were among the first tools for recording symbols. Ancient Egyptians used paint for religious purposes and probably for recording laws and business transactions. Greeks and Romans used paint for decoration and as a preservative, much as we do today.

Ancient peoples knew that such ingredients as white lead, iron oxide, red lead and yellow ochre could be mixed and used to protect as well as decorate clay jars.

American Indians understood paint long before Columbus hoisted a sail. They painted symbols on robes, tepees and totem poles.

When scientists 30 years ago decided to restore British Columbia's totem poles, they had to hire an old Indian as an adviser. The Indian was one of the few people alive who recalled how the poles had been painted. Even so, the scientists used modern commercial paint.

Modern paint consists chiefly of pigments, which are colored solids, and liquid vehicles that hold the pigments in suspension

and bind them together in a durable and protective film. Paint may also contain volatile thinners, such as mineral spirits, and driers composed of metallic compounds that tend to harden the paint film. Other chemicals may be added to regulate the paint's consistency.

When paint is manufactured, the pigments are ground to a paste in a liquid vehicle. Oils, thinners and driers are mixed in, and the paints are tinted to the desired shade with colored pastes.

For many years colonial America imported its paints and varnishes. The coloring pigments, chiefly white lead, and the vehicles with which they were mixed were purchased separately. There is a story that an early American artist once used the blood of a butchered hog, ink and coffee for pigments.

At any rate the paint industry never got a foothold in this country until 1804 when a Philadelphia firm began manufacturing white lead. Grinding pigments in oil for commercial use was not begun until even later.

Science News Letter, October 6, 1956

### VETERINARY MEDICINE

## Animal Disease Germs Hitch-Hike by Air

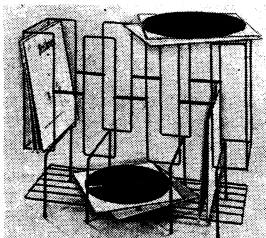
➤ SWIFT international air travel now gives animal as well as human disease germs a chance to hitch-hike into this country, Secretary of Agriculture Ezra Taft Benson said at the dedication of the Plum Island Animal Disease Research Laboratory on Long Island, N. Y.

Animals coming to this country by ship, if infected with some disease, would die before they reached this country. Now they can come in by plane from any part of the world in 48 hours. Nearly all of our poultry and over half of all livestock coming into this country from overseas now travel by air.

An animal might seem healthy when shipped, but harbor unsuspected germs of dangerous diseases. The disease would not develop until some time after the animal's arrival, by which time it might have spread to herds in this country.

Science News Letter, October 6, 1956

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### ICHTHYOLOGY

## Find Rare Fish Off Chilean Coast

➤ A FISH that looks like a swimming pine cone has been identified as an hitherto unknown species. The unique specimen was caught off the Chilean coast and sent to the Smithsonian Institution for identification.

Belonging to a distinctive genus, *Monocentris*, described as having "an isolated niche in ocean life," the fish looks like a pine cone, alive or dead. The largest of such fishes are a little more than three inches long.

One genus "carries lanterns," luminous organs on each side of the mouth.

The swimming pine cone was found by Dr. Edwyn P. Reed, chief of the biological service of the Chilean Fish and Game Department, off the Robinson Crusoe island, Juan Fernandez. It was identified by Dr. Leonard P. Schultz, curator of fishes at the U. S. National Museum, Smithsonian Institution.

Dr. Schultz described it further as the "first of the entire family known in the American Pacific." Called "rare anywhere," the small fish were formerly associated with the tropical western and central Pacific.

Science News Letter, October 6, 1956

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