



MRS. FOUR-EARS—This family of four-eared cats may lead to new discoveries about heredity.

and elsewhere. It was here that the maternal influence on the development of breast cancer was first detected in mother's milk (mouse—not human). This "influence" is now known as the milk factor which causes cancer in mice nursed by the female carrying it, but not in her offspring if they are foster-fed.

In studies of hereditary factors, in cancer or other conditions, factors of environment must also be considered and ruled out, if possible. So some of the work at Jackson Laboratory has turned to studies of environment as well as studies of genetics, or heredity as the layman terms it.

This is where the broadcasting pups come into the picture. How much of a dog's characteristics are due to his breed and how much to his environment? Is a wire-haired terrier lively and nervous because he is

a wire-haired or because he has learned that behavior from his mother as a puppy? How does a dog feel when he sees another dog, or his master? Does his heart beat faster? Taking a dog's pulse and blood pressure in the laboratory give one kind of information, but the Jackson Laboratory scientists wanted to know about a dog's reactions under more natural conditions. So Dr. John L. Fuller and co-workers developed an instrument, the radio-inductograph, to get such information. It is a compact shortwave radio set through which a dog can broadcast his emotional and physiological experiences while free and leading a normal existence. What the animals will tell on these records may be important for dogs, dog-owners and other animals and humans generally.

Science News Letter, July 2, 1949

Pont is for professional 35 mm motion picture projection. The film consists of three emulsion layers superimposed on one side of standard cine film base. Each layer contains the sensitive silver salts suspended in the new color former plastic.

In each emulsion the amount of dye in the final print is proportional to the amount of silver deposited by the first exposure and development.

The gelatin now in use for photographic films is made from the skin of calves. The quality and impurities of gelatin have a great effect on the sensitivity of the photographic emulsion. The plants that the animals eat affect the gelatin made from their skin. Two drops of mustard oil per ton of emulsion is enough to increase the sensitivity of a gelatin emulsion.

The synthetic resin can be made under controlled conditions and should be more uniform. The physical characteristics of some of the synthetic plastics may be better than that of gelatin. It may have better dimensional stability.

Science News Letter, July 2, 1949

Words in Science— TRANSONIC-ULTRASONIC

► TRANSONIC is a word used to describe the speed of very fast airplanes and projectiles which travel at or about the speed of sound. The speed of sound at sea level is about 760 miles per hour. Speeds from about 90% of sound's speed to 120% of it come within the range known as transonic. Speeds higher than that are called supersonic.

Ultrasonic is not used in connection with aviation speeds. It is the word applied by scientists to sound waves of very high frequencies, with pitch beyond the limit of human hearing. Ultrasonic waves have various uses such as the testing of metals for flaws, killing of bacteria, and elimination of smoke.

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CHEMISTRY

Plastic for Photo Film

► OLD-FASHIONED gelatin, made from skin of calves, may in the future give way to a synthetic plastic as the emulsion material that coats photographic film and carries the chemicals that are affected by light and make the picture.

The replacement of conventional gelatin by a synthetic polymer resin in a Du Pont color printing film suggests that synthetic material may eventually be used in more photographic films.

Color film emulsions using gelatin have

a chemical put into them which makes the dyes stick to the silver image, called a color former. The new film uses the synthetic polymer to replace both the color former and the gelatin binder, thus making the one substance do the work of two.

Because the new color former plastic is only swollen by water, the dyes in the resulting picture are deposited in place and keep the picture sharper than by the older method.

The new color film announced by Du

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