

## PSYCHOLOGY

# Likes and Dislikes Signalled By Babies' Feeding Behavior

**T**HE NEW-BORN infant can tell the psychologist about what he is able to taste and feel. So Dr. Kai Jensen of the Connecticut Agricultural College, reported to the meeting of the American Psychological Association in Toronto.

The language used by the infants studied by Dr. Jensen was the pressure of their sucks on a nursing bottle as recorded on a complicated apparatus which he designed especially for this purpose. When milk of the correct temperature is in the bottle, the infant will suck and then swallow rhythmically and with equal pressure. But let the temperature be raised or lowered enough and he will suck much less vigorously, with increasing irregularity, until he stops altogether. The temperature acceptable varies greatly with different infants. Some will take it as cold as ten degrees Fahrenheit above freezing point. Some will drink milk as hot as 150 degrees, although the usual temperature for feeding is about 105 degrees. Differences in temperature of less than two degrees are detected by the infants.

To test the sense of taste, salt solutions were given. The weakest solution tasted by the babies was only 225 thousandths of one per cent. and differences as minute as 25 thousandths of a per cent. were noticed. The infants studied were all under twelve days old.

Putting a human baby through a test designed for testing a monkey, giving no directions, but using food for "bait," was one of the steps of a series of experiments described at the meeting by Dr. Louis W. Gellermann of Yale University. The whole series conducted by Dr. Gellermann and Dr. Walter S. Hunter involved tests of many types of animals from rats to human adults. They demonstrate a clear difference between the typically human ability of the symbolic type and ability of the ordinary habit-formation type.

The apparatus used in the baby-monkey test consisted of two boxes in which food was placed as rapidly as it was taken out by the infant or animal. Each box had a lock which could be operated by the person giving the test. This he did in such a way that the boxes could be opened only in a particular order,

first the right one, second right again, third left, fourth left; continuing thus twice right, twice left.

Dr. Gellermann found that two separate abilities are involved in the task of learning this pattern without any direction or encouragement other than the urge of hunger. The simple trick of learning to look in the right box first for food is one which the lower animals learn more readily than does the human infant, but the tendency to turn first to the right and then to the left, and the ability to discover the pattern of two right and two left, is highest in human beings and less in evidence going down the evolutionary scale. Roughly, the order for the animals tested seemed to be highest for human adults, next children, then at about an equal level human infants and adult chimpanzees, then Rhesus monkeys, raccoons and last rats.

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## ICHTHYOLOGY

## Fish Use Their Ears To Maintain Balance

**N**EW EVIDENCE that fish, like higher animals, use their ears for maintaining balance as well as for hearing was recently advanced by Prof. Karl

## ENGINEERING

# Metal, Though Good Conductor Now Insulates Against Heat

**M**ETAL, ordinarily thought of as a high conductor, is being used to stop heat. This new type of insulation, using aluminum foil as a basis, has been demonstrated as superior to the old methods and finds a wide application. So Max Breitung says in a report to the American Society of Refrigerating Engineers.

For insulation purposes, sheets of aluminum as little as .0003 of an inch thick are crumpled irregularly and assembled in layers. The limited area of

contact allows a very small transfer of heat, and the foil has the advantage of not storing the heat as well as of being light and untarnished by air.

Following research both in German and American laboratories, aluminum foil is being employed in the household, in fish and meat industries, on railroad lines, and as an insulant for both brine and steam pipes on German cruisers. One of the French Merchant Marine vessels now under construction has been fitted with four tons of these sheets.

von Frisch in an address before the Bavarian Academy of Sciences. Prof. von Frisch noticed during his first experiments that the fish reacted to whistling alone. Later, methodically carried out experiments showed not only an almost human sense of hearing, but also a pronounced acuteness of hearing and a capacity for distinguishing tones. To detect whether this was really hearing and not merely a highly developed sense of touch, certain parts of the inner ear of fish were removed. It was found that the inner ear served partly to maintain equilibrium and partly for hearing. If the lower part of the ear labyrinth was removed the fish became deaf; if the upper part was removed, the sense of hearing remained but equilibrium was disturbed.

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## BOTANY

## Textiles May Come From Equadorian "Silk Flower"

**A** TALL BUSH with bright yellow and red flowers, bearing long silky fibers in its pods, may be the source of new textiles, in the opinion of Dr. A. Avila of Guayaquil, Equador, who has been investigating its properties.

It grows in the tropical forests of the Equadorian mountains, where it is known to the natives as the "silk flower." It belongs to the euphorbia or spurge family, being related to such well-known plants as the Para rubber tree, the castor bean, and the poinsettias used in Christmas decorations.

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