

PSYCHOLOGY

Cats Work, Play with Rats

These two animals, commonly known as "natural enemies", play and work together to get their food. The implications for the world situation are significant.

See Front Cover

► FOUR alley cats, straight from New Orleans's French quarter, where they had practiced in dispatching little alley rats, learned to cooperate with laboratory rats.

Cat and rat played together. They worked together. They ate the same brand of dog food from the same plate as shown on this week's cover of SCIENCE NEWS LETTER.

A motion picture of these "natural enemies" in peaceful life with each other was prepared by Tulane University psychologist Dr. Loh Seng Tsai, as a moral to humans. It was previewed before psychologists at the meeting of the American Psychological Association in State College, Pa. Dr. Tsai expects to show it later to delegates to the United Nations.

Dr. Tsai began his experiment with three little kittens, only three weeks old, and three young white rats. He put them all in a cage together where they learned to eat and live together. Then he taught them to work in cooperation. He paired them off—Kitty the cat and Mickey the rat.

Each pair was put into a cage. A wire screen separated them from a tempting dish of food. To get at the food, cat and rat must step simultaneously on two buttons, thus raising the screen.

At first they did not get the idea. Dr. Tsai put food on both keys to give them a clue. But both ate from the same key.

The cat almost caught on. He was play-

ing with the rat's tail and accidentally both keys were pressed, opening the way to the food. So the cat went on playing with the rat's tail, evidently thinking that solved the problem.

But the rat was smarter. He would attract the cat's attention with his tail and when the cat had his paw on his button, he would scurry over and press his own.

Each animal seems to realize that he needs the other's help to get the food, Dr. Tsai reports. One rat got his tail caught going into the test cage and later was reluctant to enter, hesitating in an outer chamber. The cat went back to the entrance and beckoned for his partner to come in and get on the job.

Later Dr. Tsai arranged the experiment so that one animal was held in the outer chamber, but the other animal could release him by pressing a button. Cat and rat both learned to press this button and lift the iron curtain, so that the other could come in and help.

Then the alley cats were brought in and fed with the rats. They, too, made friends and learned to work cooperatively with the laboratory rats.

Dr. Tsai believes that the implications of this experiment for mankind in this world of cold and hot war are obvious. "If the 'natural enemies', cats and rats, can learn to work together, why not unfriendly nations of men?" he asked.

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to make the sounds of all the vowels and a number of consonants. By the end of her third month, she would make such remarks in baby talk as "ah," "wha," "he" and "o."

But after four or five months her babbling stopped. At five months her formal speech training began. First she was taught to "speak" for her bottle, and she learned to bark, much as a dog will when trained.

When she was 14 months old, Dr. Hayes began moving her lips to form the word "mama." In two weeks she learned to say it. At first she could say it only when fingers were on her lips, but later she would put her own hand to her mouth when she made the sounds. Now she always brings her hand to her mouth to call her "mama."

In the following months, Viki began to make a number of sounds in play. One was like a whispered Bronx cheer. Dr. Hayes taught her to put two of these salutes together and to shorten them somewhat. This formed the basis of Viki's second word, "papa." She has learned to address Dr. Hayes with this word, but it is still whispered.

When she was 28 months old, she had learned to put another pair of sounds together to form another whispered word, "cup." This she says when she wants something to drink.

Dr. Hayes has tried to train two other year-old chimpanzees to talk, but without much success. One has learned to give a sort of bark to obtain food, the other can occasionally and with great effort produce a whine.

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Viki, a Chimp, Talks

► A TALKING chimpanzee was introduced to psychologists at the meeting of the American Psychological Association through a sound movie that records her words.

The ape is Viki, three-year-old adopted "daughter" of Dr. Keith J. Hayes, of the Yerkes Laboratory of Primate Biology, Orange Park, Fla., and Mrs. Cathy Hayes. Viki wears dresses, plays like a baby and laughs when she is tickled.

Viki knows three words and can use them correctly. They are the same words that usually form the beginning of a human baby's vocabulary—"mama," "papa" and "cup."

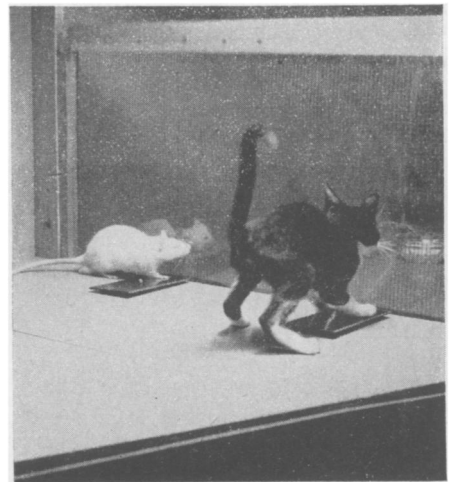
The reason that the ordinary chimpanzee cannot talk, Dr. Hayes concludes from his experience with Viki, is not anything defective in the voice box or other vocal

organs. It is not due to lack of intelligence—Viki has the mind of a three-year-old human child, tests show. Instead, the fault is something lacking in the center of the brain that, in man, controls speech.

Dr. Hayes believes that Viki can learn to speak more words, though only with great difficulty. In many ways, she seems like a human who has lost the power of speech because of injury to the speech center of the brain, but can understand much more than she can say.

Viki has lived for all three years of her life in the Hayes' home as their child. In the film she wears a little jumper dress and sits on a table or is carried in the arms of Dr. or Mrs. Hayes.

Her speech started with the ordinary childish babbling during which she learned



OBJECTIVE—FOOD—Kitty and Mickey, after some confusion as to how to get the food on the other side of the wire screen, found out that the buttons had to be stepped on simultaneously to raise the screen. Now they work together to satisfy their hunger.