

PSYCHOLOGY

# Neurotic Rats Bring Dr. Maier \$1000 Award of A.A.A.S.

## Animals Suffer Nervous Breakdown When Forced to Act In Situation Where Every Act is Wrong; Like Humans

**F**OUR rats won the thousand-dollar prize of the American Association for the Advancement of Science for Dr. Norman R. F. Maier, of the University of Michigan, by having a nervous breakdown when they were forced to act when confronted with a problem which they could not solve. (*SNL*, Dec. 31, '38)

By showing just what causes nervous breakdown, these rats may enable physicians to make a new attack on human mental disease with new hope for prevention and cure.

For the breakdown of Dr. Maier's rats is strikingly like that of men. We also break down, Dr. Maier said, when we are confronted with a "do something" situation and know that whatever we do will be wrong.

Dr. Maier's rats were first taught to face a situation intelligently. Two cards were set up, with food behind one of them. If they jumped at the right card they got the food, if they jumped at the wrong one, all they got was a thump on the nose and a fall into a net. They soon learned the distinction between "right" and "wrong" in these simple terms of reward and frustration.

Then disorder was introduced into their little world. Sometimes the food was put behind the "wrong" card, and a jump at the "right" card resulted in the fall into the net. Or the "right" card was omitted entirely and only the "wrong" one was left for them to jump at.

In the face of this confusion, the rats hesitated to act. They would refuse to jump for as long as a quarter of an hour. But action was forced on them by means of a blast of air and a disturbing noise. In some of the experiments, the situation was still further complicated by penalizing the wrong decision with a slight electric shock.

The rats simply "went batty." They ran around in circles. They lunged halfheartedly at the baffling cards instead of jumping straight at them, so they fell in any event. They fought the electric wires. One of them developed pronounced neurotic symptoms. It became inert, would not move when picked up and handled,

left its legs in the positions where the experimenter poked them, was glassy-eyed. Nevertheless it ate well, and lived out a normal rat's life-span of about two years.

The general moral of the story is that with rodents and also with our two-legged selves, nervous breakdown comes when no choice is the right choice, yet action is compelled.

If we know what we have to do, even if that means going to the electric chair, we may develop tensions and fears, but we do not "lose control of ourselves" by becoming neurotic wrecks. Unsolvable problems bring breakdowns only when they must be solved.

Watching the drama of nervous breakdown as portrayed in motion pictures of Dr. Maier's experiments, scientists fairly gasped.

"He's got something there!" one psychologist explained.

"Psychiatrists can't fail to recognize in these symptoms true mental abnormality," another commented.

Dr. Maier's rats are not the first animals to develop nervous symptoms when placed in conditions of mental strain, but never before has any animal been seen in a state so close to what physicians see in human patients suffering from mental disease or nervous breakdown.

Now, if confirmation of Dr. Maier's experiments proves that nervous breakdown or mental disease can be definitely attributed to a certain set of laboratory-controlled conditions, mental diseases in humans can be attacked with a new understanding and with renewed hope for prevention and cure.

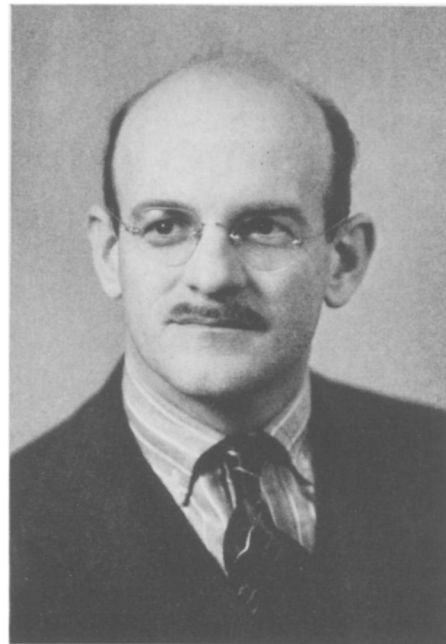
*Science News Letter, January 7, 1939*

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## Prize Winner Glad That Rats Can Serve Mankind

By **DR. NORMAN R. F. MAIER,**  
Of University of Michigan

**T**HE demonstration of neurotic behavior in the rat extends the field of psychiatric investigation to an animal which is not only relatively simple but



**DR. NORMAN R. F. MAIER**

one whose behavior has been more extensively investigated than that of any other animal below man. The use of the free situation rather than the conditioned response method extends the range of neurosis producing situations and makes possible the more complete analysis of psychological conflicts.

Since many lines of investigation are not open to research workers utilizing human beings as subjects, animal neurosis actually places the study of behavior abnormality on a broader scientific basis. Paradoxically enough, the psychiatrist is pleased when he cures a neurosis, whereas the psychologist is rewarded for creating it.

The important first step has been the presentation of convincing evidence of true and intense abnormal behavior which could be distinguished from the heightened nervous tension or fear. Once having learned how to produce that behavior, work on its cure can be more effectively begun.

Psychologists are only too happy if the rat which they truly love can be of service to mankind. It is hoped that this work will bring psychiatrists and psychologists closer together so that they can work toward a common end.

Soon we will have to face the task of correcting our environment so that neurosis-producing conflicts can be eliminated. Then we will not have to worry so much about correcting man's maladjustments.

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