

PSYCHOLOGY

Remember Seven Items

► THE AVERAGE MAN can remember accurately only seven items on a list heard for the first time, Dr. George A. Miller, an associate professor of psychology at Harvard University, reports.

In an attempt to break through man's "memory barrier," Dr. Miller found men become confused when they try to tell the difference between seven different degrees of any simple sensory magnitude, such as the brightness of light or the loudness of sound.

They make similar errors if they try to recall more than seven items on any list heard for the first time.

It is only coincidental, the Harvard psychologist suggests, that the memory limiting number is seven, but it may explain why the number seven appears so frequently in man's history.

He notes the seven days of the week, the seven deadly sins, the seven ages of man, the seven wonders of the world, the seven notes on the musical scale, and the seven seas.

Dr. Miller believes man's limited memory

is caused by something "built into us," either by learning or the design of the nervous system.

To overcome the limitations, he suggests man organize "bits" of information into "chunks" of information. For the husband-shopper, this might mean remembering that he has to buy dairy products, meat and vegetables, and then recalling items like milk, eggs and butter and pork chops and ham for each "chunk."

Another outcome of the study carried out for the Office of Naval Research was finding that the chosen memory recording process may determine the kind of mistakes made.

Dr. Miller explains that, when we witness some event we want to remember, we make a description in words of it and then remember our word picture. When we recall the particular event, we recall the word recording we happen to have made.

This recording in one's own words, Dr. Miller states, depends on the person's whole life history.

Science News Letter, December 31, 1955



HIGH-SPEED PRINTER — The speedy printer shown here is part of "Bizmac," the \$4,000,000 electronic data-processing system bought by the U.S. Army from the Radio Corporation of America. It prints an original and three carbon copies of finished paper work at 600 lines a minute. The computer will do in minutes inventory control procedures now taking months at Detroit's Ordnance Tank-Automotive Command.

ENTOMOLOGY

Breezes Bring Insect Pest

► AN AIRBORNE INVASION into the United States by the world's worst cotton pest may be a regular occurrence, with winds from the Bahama Islands carrying the pink bollworm moth across the ocean to the Florida mainland, the U.S. Department of Agriculture has revealed.

In spite of constant and apparently successful attempts to eradicate the pink bollworm from infested wild cotton in southern Florida, the pest has continued to frustrate control workers by its sudden reappearances.

A clue to the persistence of the bollworm in Florida came when a survey of two Bahama islands, less than an hour's flight from Miami, disclosed thousands of cotton plants growing in dooryards, on roadsides and in dense bush. Blooms, bolls and squares of this Bahama cotton were found infested with pink bollworm.

Bahamas cotton fruits heavily from January through April, when the bollworm moths there would be expected to be in greatest numbers.

This is also the season when pink bollworms are found in Florida cotton. South Florida's winds are usually from the south and southeast, for about one-third of the fruiting season. This is where the Bahamas lie.

Pink bollworm moths have been found 1,000 feet in the air on other occasions. Precisely how far they can be carried by high wind currents is not known. There is evidence bollworm infestations of west

Texas in the early 1920's were windborne from Mexico's Laguna area, over 200 miles south of the border.

Science News Letter, December 31, 1955

MEDICINE

Carbon Dioxide Aids Heart X-Ray Examination

► CARBON DIOXIDE GAS is expected to give doctors a safer way to make X-ray examinations of the inside of the human heart.

The method was reported by Drs. Herbert M. Stauffer, Thomas M. Durant and M. P. Oppenheimer of Temple University Medical School, Philadelphia, at the Radiological Society of North America meeting in Chicago.

The carbon dioxide gas would be used instead of air or oxygen to make the chambers of the heart opaque to X-rays so that an outline of them shows up on the X-ray film. The gas is injected into the veins and travels along them to the inside of the heart. Large doses have been well tolerated by dogs, Dr. Stauffer reported.

Carbon dioxide is preferred by the Philadelphia group because it is about 20 times as soluble in blood serum as air or oxygen, which should lessen the danger of bubbles accidentally forming and plugging an artery or vein. Such bubbles when formed from air are called air emboli.

Science News Letter, December 31, 1955

PSYCHOLOGY

Can Control Content of Ordinary Conversation

► THE RATE at which an individual expresses his opinion in a conversation depends not only on the speaker's opinionated nature but also on the behavior of the person to whom he is speaking.

Dr. William S. Verplanck of Harvard University found, in experimental conversations, that it is possible to manipulate the conversation without the other person's catching on, so that the opinion expression is speeded or slowed.

It is done by agreeing with the speaker. A nod of the head or a smile or saying "You're right," "I agree," or "That's so," will cause the speaker to express his opinions more frequently. He can also be encouraged to give opinions at a faster rate by rephrasing his statements or repeating them.

On the other hand, a speaker can be discouraged from giving his opinions if the person addressed disagrees with him or remains silent. Some even left the room or lapsed into complete silence themselves.

Thus, commonplace behavior such as ordinary conversation follows the psychological laws of conditioning.

Topics selected for the experimental conversations ranged from dates and vacations to Marxism; from the theory of music to Liberace.

Science News Letter, December 31, 1955