PSYCHOLOGY

Suggestion Helps Learning

Suggestion in trance makes five seconds seem like five minutes. More accomplished in this distorted time, learning tests show.

➤ STUDENTS WANTING to cram for final examinations might try getting themselves hypnotized. While hypnotized, they can gain time and learn much more.

This possibility results from experiments by Dr. Linn F. Cooper, Washington physician, and David W. Rodgin, also of Washington, now a graduate student in psychology at Purdue University. Rodgin was the guinea pig in hypnosis learning experiments while a student at George Washington University.

An individual's inner sense of time can be so distorted by suggestion under hypnosis that a period of only five seconds will seem to him to be four or five minutes, Dr. Cooper and Mr. Rodgin found.

"Apparently, time can be given to the hypnotized subject," they said.

To test the effect of thus slowing down time on the amount that could be learned in five-second study periods, the scientists repeated a standard learning experiment with nonsense syllables or letter groups. A pair of the three-letter groups was printed on each of 150 cards.

In the first part of the experiment, the cards were shown to Mr. Rodgin and read to him slowly. Then he was allowed to print the letters five times and study them. This took about 26.5 seconds. After a set of five cards was learned in this way, the whole set was run through to test the learning. After shuffling the cards, Dr. Cooper would read the first group and Mr. Rodgin would give the second of the pair. Then the card was displayed and Mr. Rodgin allowed to study it for five seconds. This running through the cards was repeated until he could give the second group of each pair perfectly.

Next the subject was hypnotized, his sense of time altered, and the experiment was repeated, using another series of cards. In this case he kept his eyes closed and printed the letters only in his imagination. This took him only five seconds instead of the 26 used while he was awake. Under hypnosis, he was able to master in only 7.4 seconds what it had taken him more than four times as long to learn while awake. And the learning seemer easier and more leisurely. Tested after 24 hours, he had retained more of what he learned under hypnosis and could re-learn the forgotten material in less time.

Details of the study are reported in the journal SCIENCE (May 2).

Science News Letter, May 10, 1952

CLOSED CANOPY EJECTIONS—Tests to determine the effect of a pilot firing himself through the canopy of his disabled aircraft are being made at the Naval Air Material Center in Philadelphia. The pilot and the net in which he will be caught are shown in this just-declassified photograph.

BIOLOGY

Two-Pound Giant Toad Discovered in Ecuador

See Front Cover

➤ A NEW species of giant toad, measuring at least eight inches in length and weighing about two pounds, has been discovered in South America.

Existence of the giant toad in a remote province of southwestern Colombia had been rumored and the first specimen was brought back from the region by Rolf Blomberg of Quito, Ecuador. Mr. Blomberg was told by the natives that his specimen was only half as large as the largest examples found in this rain-drenched tropical area.

During 1951, three more of the new toads were picked up and are now in the New York Zoological Park. The toad, named *Bufo blombergi,* is believed to be a Pacific slope giant relative of a small toad found on the Atlantic side of the Andes. These mountains form a very effective barrier to east-west migration of tropical species, Dr. George S. Myers and John W. Funkhouser of the Natural History Museum at Stanford University in California report. The zoologists describe the new species in ZOOLOGICA, a publication of the New York Zoological Society.

Science News Letter, May 10, 1952

PLANT PATHOLOGY

Plant Virus Diagnosis By Ultraviolet Light

➤ ULTRAVIOLET LIGHT is used in a new method of diagnosing plants sick or infected with virus diseases.

Developed at the State College of Washington's Tree Fruit Experiment Station at Wenatchee, Wash., portions of leaves are used in the test in making extracts of the material that is then used for the determination of ultraviolet absorption spectra.

This pattern of light is characteristic of different virus diseases, giving hope that they can be detected, cured and prevented. Color and staining tests have not been able to separate one virus from another.

The scientific team reporting their researches to the journal SCIENCE (May 2) consisted of Drs. R. C. Linder, H. C. Kirkpatrick and T. E. Weeks, who are connected with the U. S. Department of Agriculture as well as with the Washington state experiment station.

Science News Letter, May 10, 1952

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