

PSYCHOLOGY

Addict Helps Build Habit

Drug addicts have a relapse to the drug because they have taken active part in its use, Marjorie Van de Water reports from the American Psychological Association meeting.

► A NEW psychological explanation for drug addiction shows why patients given opiates for pain do not often become addicts.

When these patients get well and are released from the hospital, they do not show any alteration in their behavior, Dr. John R. Nichols, psychologist of Southeastern Louisiana College, reported to the American Psychological Association in Chicago. They do not rob drugstores, forge prescriptions or show any sign of uncontrollable "craving" for opiates. The overwhelming majority of patients never become addicts, he said.

With illegal drug addicts, the big medical problem is not getting them "off the drug," Dr. Nichols said. It is the problem of relapse after cure.

In experiments on rats, Dr. Nichols used a kind of conditioning called "operant conditioning" to make the animals drug addicts. Some of the rat addicts went back to the drug after being "cured" for weeks. This is probably the first demonstration of relapse by animals, Dr. Nichols indicated.

The reason why Dr. Nichols' rats became addicts and why they later relapsed after "cure" was credited by him to the operant conditioning. In operant conditioning, the subject must do something; he must take an active part in the process.

In these experiments, after the rats had become dependent upon opiates and then had been without the drugs for 48 hours, they were trained to turn their heads in a certain way that started an infusion pump that gave them a shot of the drug.

Thus they learned by their own action to end the distressing withdrawal symptoms.

In man, too, the development of addiction appears to be related to whether he takes an active role in using the drug. Illegal users of opiates are active, Dr. Nichols said. They initiate the drug-taking action and that behavior rapidly becomes a chronic obsessive-compulsion for them.

Passive recipients of opiates, such as hospital patients, however, may become physiologically dependent on the drugs and show withdrawal symptoms but when they are taken away from them, they do not rush out to hunt up a "pusher."

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Machine Teaches Russian

► USING a do-it-yourself machine, a soldier can learn enough of even the difficult Russian language to be able to take a Russian prisoner.

The machine is a tape recorder with a specially programmed tape. The tape contains Russian phrases that cannot be erased. It also has sections where the soldier-student can record his own pronunciation and play them back, with the original pronunciations, for comparison.

Scientists from George Washington University's Human Resources Research Office (HUMRRO), Washington, D. C., described an experiment to the American Psychological Association in Chicago that indicated the language machine is successful.

In experiments, soldiers learned a 450-

word miniature of the Russian language entirely by machine. At the end of the course, which required 20 days, the soldiers were able to take "prisoners." (Native-born Russian teachers without knowledge of the course took the role of prisoners.) The soldiers gave the necessary commands: "hands up," etc., and asked important questions such as "What kind mine fields?" and "Where artillery?" And the soldiers understood the prisoners' answers.

Even soldiers whose lack of aptitude would make it impossible for them to learn Russian by conventional methods were able to complete the machine-taught course, it was reported.

The scientists who conducted the experiments are Dr. Eugene Rocklyn and Richard I. Moren of HUMRRO.

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Drug Against Fear

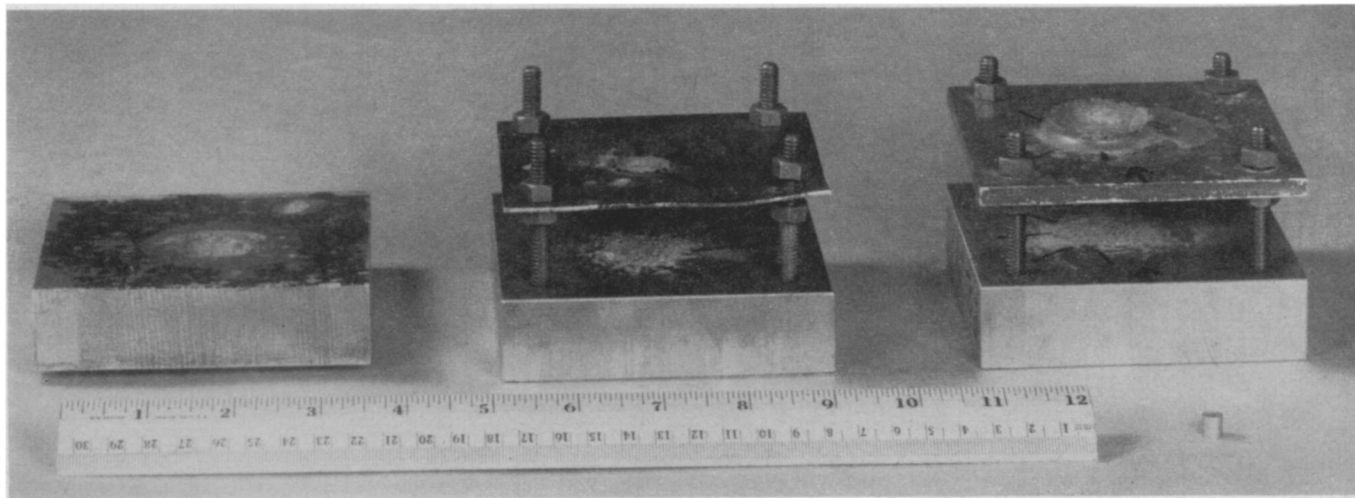
► A FAMILIAR DRUG may some day be used to protect men against the intense fear ordinarily experienced in combat.

Experiments with cats and rats giving rise to this hope were reported by Dr. Neal E. Miller of Yale University in his address as recipient of one of the 1959 American Psychological Association distinguished scientific contribution awards.

Previous studies have shown that the horrible fear in combat can cause not only combat neuroses, shell shock, but also psychoses and such psychosomatic symptoms as stomach acidity, ulcers, heart symptoms and increased susceptibility to infection.

In some of their experiments with rats, Dr. Miller and his associates first taught the animals to be scared of a flashing light at one end of an experiment box. This was done by giving them electric shock through a grid on the floor. The closer the rats approached the flashing light, the stronger was the shock.

With the aid of doses of sodium amytal, the rats would later go farther toward the light in the face of threat of possible shock



METEOROID BUMPERS—Protective bumpers for outer walls of space craft can reduce the weight of the walls by more than 50 percent, tests showed at General Electric Company's Missile and Space Vehicle Department in Philadelphia. Aluminum pellets, half an inch in diameter, hit with a velocity of 15,000 feet per second, a block of unshielded aluminum (left), a one-inch aluminum block shielded by .063-inch of aluminum (middle) and a one-inch aluminum block shielded by .250-inch of aluminum (right)