

Drug Acts Like LSD

A drug offering the benefits of the drug LSD, but which does not produce psychic hallucinations, has been found

► A SHORT-ACTING hallucinogenic drug with all the psychological effects of LSD has been found by three scientists in Washington, D.C.

The effect of the drug, N,N-dipropyl-tryptamine or DPT, lasts only one to two hours, in contrast to LSD which lasts for eight to 10. Scientists hope that DPT, with its short action and ability (similar to that of LSD) to uncover deep psychological insights, will become a highly useful tool in psychotherapy.

Drs. Stephen I. Szara, Alkinoos Vourlekis and Louis A. Faillace of St. Elizabeths Hospital, Washington, reported their findings before the Collegium Internationale Neuro-Psychopharmacologicum meeting.

At the same time the scientists described a second drug that acts like DPT physiologically but does not produce hallucinations.

Both drugs cause an increase in blood pressure, heart rate and respiration. But, because the second chemical, 6 FDET, is free of strange psychic effects, it may be the sought-after control for LSD and other hallucinogens.

Dr. Szara explained that when LSD and psychotherapy are used together

no one knows how much of the patient's improvement comes from the drug and how much from the therapy. But with 6 FDET, called an "active placebo," there is a method of comparison.

Neither drug has yet been approved for use outside the National Institutes of Health, under whose auspices they were found and tested.

For their pilot study Dr. Szara and his colleagues used 10 alcoholic patients in good physical condition. The patients were given both drugs once a week over a 10-week period.

With DPT and therapeutic guidance some of the patients relived in vivid detail events in their early lives. They realized both what drinking had done to them and why they were doing it. Other patients discovered much less, depending on the strength of their defenses.

The active placebo brought about some heightened emotion but no revelations.

After the study, all but one alcoholic returned to drinking. But in the opinion of the scientists the drinking was markedly reduced.

• *Science News*, 89:248 April 9, 1966

PHYSIOLOGY

Memory Improvement

► MEMORY in senile individuals is apparently improved by carbon dioxide inhalation and vitamin B-3.

This could well mean that metabolism and the production of new protein are central to memory storage—a highly current topic of debate among scientists searching for the physical traces of memory.

In reporting his experiment before an international assembly of psychopharmacologists, Dr. Heinz Lehmann of McGill University, Montreal, Canada, added one more bit of evidence in support of the protein theory.

Dr. Lehmann tested drugs on two groups of patients, those with organic brain damage—including the senile—and those afflicted with schizophrenia, mentally ill but showing no organic disease.

He found that while CO₂ and vitamin B-3 were effective with the first type of patient, tranquilizers improved memory in schizophrenics.

If the treatment was reversed, neither group of patients profited at least in their ability to remember.

Organic damage possibly hinders the establishment of memories, Dr. Lehmann told the Fifth Congress of the Collegium Internationale Neuro-Psy-

chopharmacologicum meeting in Washington, D.C. It could do this by impairing metabolism and therefore protein synthesis.

Schizophrenics probably have nothing wrong with their memory storage mechanism. They are simply unable to recall memories because they cannot focus their attention. By calming this mental confusion, tranquilizers may be enhancing recall, said Dr. Lehmann.

The memory tests Dr. Lehmann used included picture recognition, number series and word pairings. Improvement was found mainly with the numbers and words. Statistically the results were slightly less than significant, but the sample was small—less than 200 patients, said Dr. Lehmann. He believes that a larger group would show a significant memory improvement by all scientific standards.

An important finding was that the drugs had a selective effect. For instance, a drug having no effect or even a poor effect on the patient's personality and attitude might help his memory. Conversely, the drug that brightened the patient's outlook, and made him more interested and active, might do nothing for his memory.

• *Science News*, 89:248 April 9, 1966

MEDICINE

Complete Cure Found For Human Epilepsy

► A COMPLETE and apparently permanent cure for human epilepsy has been reported by a Japanese scientist.

Dr. Takashi Hayashi of the Keio University School of Medicine, Tokyo, told an international symposium on biochemistry and therapeutics in New York, that injection of an amino acid called gamma-amino-beta-hydroxybutyric acid (GABOB) along with another substance, homocarnosine, completely cured epileptic seizures in 84% of the cases treated.

Injection was made under the membrane covering the brain and spinal cord. No seizures recurred within a three-year observation period.

Dr. Hayashi offered the theory that GABOB inhibits chemical transmission within the cells of one motor system—the sensorimotor complex—while homocarnosine inhibits another, the limbic system.

By itself, with the same type of injection, GABOB cured epileptic seizures in only 69% of the patients.

• *Science News*, 89:248 April 9, 1966

PUBLIC HEALTH

'New City' May Be Pollution Laboratory

► AN ENTIRE CITY may be used as a laboratory to test ways for controlling the nation's growing pollution.

This was the recommendation of a National Academy of Sciences committee, which revealed in a report that every man, woman and child in the United States last year produced an average of 4.5 pounds of trash per day.

The prototype disposal system, to be set up in one of the country's "new cities," would be followed by Federal agencies and Federal standards, possibly to the considerable displeasure of industries that continue to pollute air and water supplies while protesting the idea of Federal intervention.

By 1980, the committee reported, there will be enough sewage and other water-borne wastes to consume, in dry weather, all the oxygen in all 22 of the country's river systems.

"As the earth becomes more crowded . . . one person's trash basket is another's living space," the report said, adding that sewage alone has become such a problem that treatment would cost from \$20 billion to \$30 billion.

The Federal Government should also have a devil's advocate in its midst, the committee said. An "Ombudsman" should be appointed: that is, a government employee on the side of the citizen, assigned the task of hearing and attempting to solve individual complaints.

The report was prepared as a follow-up to an earlier one which had been issued by the President's Science Advisory Committee in 1965.

• *Science News*, 89:248 April 9, 1966