

CHEMISTRY

Pills to Soothe Tension

Chemists are urged to intensify studies of well-established drugs to make them more effective in the treatment of the psychologically disturbed—By Walter Wingo

► IF YOU TAKE pills to soothe mental tension, you should not be ashamed. Dr. Dale G. Friend of Harvard Medical School, Boston, believes the practice is no more a sign of weakness than relying on a shovel to help you dig a ditch.

"Apparently man is eager and willing to accept any relief from physical stress and strain but is reluctant or apprehensive about losing or making much of his psychological tension," Dr. Friend told a session of the American Chemical Society in New York City.

He said the public's "misgivings, appre-

hension and opposition" to tranquilizer and "pep" drugs is not much different from its reaction during the 19th century to the anesthetics ether and chloroform.

Mental pills are needed not only by persons with serious psychological disturbances, he said, but also by many "normal" persons having trouble adjusting to life's complexities.

"Increased emotional strain created by herding millions from rural or semi-rural areas into densely populated cities, pressures to produce so much per hour of work, a weakening of parental and school discipline, plus local, national and world tensions have all combined to make modern-day living highly stressful for a large segment of society," he said.

"This tension is readily reflected in the widespread and often excessive use of tobacco, alcohol and sedative drugs of all types."

But today's mental drugs are not good enough, said Dr. John H. Biel of the research division of Aldrich Chemical Co., Milwaukee, Wis. Needed, he said, is a drug

capable of treating both the symptoms of depression as well as the psychosis itself.

"Mental depression may be the result of an underlying schizophrenic disorder and 'pure' antidepressant therapy may merely unleash a full-blown psychotic attack with which an available drug is powerless to cope," he said.

In the case of manic-depressives, a pep drug can push the patient into the manic phase and worsen his general condition. The ideal drug, Dr. Biel said, is one with both antidepressant and tranquilizing properties.

He said present drugs also are too slow, and speed is important in the treatment of patients with high suicidal tendencies.

Both Dr. Biel and Dr. Friend urged chemists to step up efforts at making slight alterations in the structure of well-established drugs.

The making of such alterations, which chemists call molecular modification, was one of the main topics at the week-long meeting, attended by 11,000 chemists.

Drug makers were criticized at recent Senate hearings for making only slight changes in old drugs and selling them as brand-new products.

In defending that practice, Dr. Biel said a slight change in a molecule can make a big change in the way a drug behaves. He pointed out that chemists already have developed novel drugs for treating the mind by tinkering with the molecules of drugs used to relieve heart troubles, tuberculosis, peptic ulcers and nasal congestion.

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CHEMISTRY

Grain Alcohol in Gasoline?

► THE PROSPECT of burning up the country's grain surplus in automobile motors is enticing to wheat belt congressmen.

However, to petroleum experts attending the American Chemical Society meeting in New York the idea is just an exhaust pipe dream.

The chemists take a dim view of a bill co-sponsored by Sen. Karl Mundt (R-S. Dak.) and Rep. Benjamin F. Jensen (R-Iowa) that would require all gasoline to contain at least five percent grain alcohol.

"The quality of the fuel would not be affected much, but the processing required would make it simply uneconomical," said one of Rep. Jensen's neighbors, Dr. Glenn A. Russell, an organic chemist from Iowa State University, Iowa City.

Dr. J. O. Clayton, a petroleum chemist for California Research Corporation, San Francisco, explained what is needed to convert surplus grain into alcohol for mixing with gasoline.

First, the grain is made into a low-grade beer. It is combined with water and yeast, a living plant which manufactures the molecules that convert sugar into alcohol.

Only about seven percent of the mixture is alcohol, which must be boiled off and recaptured, a process requiring tremendous amounts of heat for such a low yield.

In contrast, when petroleum is distilled, almost all its products can be used profitably.

When alcohol is needed in gasoline, it is much easier and cheaper to use synthetic alcohol and not bother with grain, Dr. Clayton said.

"If the bill ever passed," he added, "it might encourage farmers to grow more grain instead of less, and we would still be left with a surplus."

A little grain alcohol in gasoline would have some minor benefits, said Dr. Donald R. Napier of the Continental Oil Company laboratory at Ponca City, Okla.

It would help prevent the carburetor from freezing on cold days and would serve as an extra anti-knock agent. "I'm afraid chemistry will not be the deciding factor here," he said. "These things are determined more by economics, politics and how much subsidy the Government is willing to give."

The subsidy needed to support such a bill would have to be huge or the price of gasoline will soar, said Dr. M. J. O'Neal Jr. of the Shell Oil Company Laboratory in Houston, Texas. Grain alcohol is at least four times more costly than gasoline.

"A quicker way to get rid of surplus grain," Dr. O'Neal suggested, "would be to lower the federal tax on alcoholic beverages."

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