

of their larger size and irregular shape.

The microcrystals of sulfathiazole can get to work faster at their job of stopping germ invasion because they dissolve more rapidly and do not clump or cake.

Favorable results with the use of these microcrystals are reported in 30 wounds resulting from injury, 57 infections such as abscesses and carbuncles, in burns and in 19 patients who had abdominal operations that might have been complicated by peritonitis.

*Science News Letter, May 30, 1942*

## Cures 'Flu Meningitis

**F**IVE children under four years of age suffering from usually fatal influenza meningitis were promptly and dramatically cured by sulfadiazine treatment, Dr. Wallace Sako, Dr. Chester A. Stewart and Dr. Joel Fleet, of New Orleans, report in the same issue of the *Journal of the A.M.A.*

Two others getting the treatment died, one apparently as a result of stopping the treatment too soon and the subsequent development of chickenpox, and the other because of cisternal puncture to remove spinal fluid.

*Science News Letter, May 30, 1942*

## AGRICULTURE

### Hemp Being Grown in U. S. As War Cuts Off Imports

See Front Cover

**W**HEN they hang Adolf Hitler on a sour-apple tree, there'll be a good rope of American-grown hemp ready for the job. After a lapse of a couple of generations, hemp is again being cultivated in the United States, to make good the cutting off of our Asiatic import sources for cordage. You can't run a Navy, not even a modern steel-and-steam Navy, without hemp rope. The Army needs a lot, too, and war-essential industries also have their hemp demands.

The U. S. Department of Agriculture has bought and distributed about 3,000 bushels of hemp seed, enough to plant some 350,000 acres. Most of the planting will be done in Kentucky, where hemp cultivation started in 1775 and has survived on a small scale ever since. Hemp will also be grown in Wisconsin, Minnesota and Illinois. The acreage may be expanded into other states in 1943.

While the hemp seed was in the warehouses it was guarded by soldiers. Hemp is the source of very troublesome narcotic drugs.

*Science News Letter, May 30, 1942*

## PHYSICS

# Liquid Flow Through Pipe Assumes Five Different Forms

## Three Kinds Previously Observed Declared Not Enough; Other Types Occur When Velocity Is Very Low or High

**T**HE FLOW of oil, gasoline and other liquids through a pipe assumes five different forms as the velocity is increased, instead of only three as generally supposed, according to a communication to the British journal *Nature* from Alfred H. Nissan, Department of Oil Engineering and Refining of Birmingham University.

The three kinds of flow previously observed are the smooth, the critical and the turbulent. These are assumed in succession as the velocity of flow is increased. For smooth flow the frictional loss is low; for turbulent flow it is high. In the short critical range between, the loss changes rapidly from a low to a high rate of increase with velocity. The flow here is partly smooth, partly turbulent.

These three stages can be illustrated

by water flowing from a tap, by turning the tap on gradually.

Mr. Nissan, however, declares this classification to be an over-simplification. He finds two other distinct types which might be called the sub-smooth and the super-turbulent.

When the velocity is very low, the frictional loss increases with the velocity at a lower rate than for smooth flow. This sub-smooth type occurs when oil, gas or water seeps through porous layers in the earth.

When the velocity is very high, certain sound waves are produced which further increase losses and make a fourth type.

The usual methods of calculating flow fail in these cases, he says. They give results too low or too high, which may sometimes be a serious error.

*Science News Letter, May 30, 1942*



**CRUSHING THE STRAW**

*After the hemp straw comes from the drier, it is fed into a hemp break which thoroughly crushes it. Then the hemp is cleaned by beating and brushing in a hemp scutcher. This process, which removes the woody, pithy portion, called hurds and sends the fiber out clean, is shown in the picture on the front cover of this week's SCIENCE NEWS LETTER. Both photographs are official pictures of the U. S. Department of Agriculture by Forsythe.*



SPINNING

*This spinning machine spins loose strands of American hemp into fine yarns. U.S.D.A. photograph by Forsythe.*

## PSYCHIATRY

## Hypnotized Boys and Girls Can Give Meaning of Dreams

**Although Knowing Nothing of Freud, Normal College Students Were Able Also To Translate Famous Myths**

**D**REAMS have a language all their own, which can be translated by practically any normal person while he is under hypnosis, the American Psychiatric Association meeting in Boston was told by Dr. Leslie H. Farber and Dr. Charles Fisher of Washington, D. C.

These studies confirm Freud's theories of dream symbolism, but prove that you do not have to be a psychoanalyst to translate them. These research psychiatrists chose a group of healthy young college students who not only produced dreams to order when they were hypnotized, but translated them too. The validity of the answers was then checked in a series of control experiments, described in detail by Dr. Farber and Dr. Fisher.

The psychoanalytic idea of a "universal unconscious language" has been

taken out of the realm of controversy by these experiments, and made available for scientific study.

These college students who had never read Freud translated other people's dreams as readily as their own in most cases giving the classical Freudian interpretations which have aroused a storm of controversy ever since Freud published his "Interpretation of Dreams."

It was stressed by the psychiatrists that these experimental subjects were not neurotics, but normal, average college students who are totally unable to translate dreams either before or after hypnosis.

Also confirming psychoanalytic speculations were the translations obtained of myths—such as Moses in the Bulrushes and the Garden of Eden story—which tallied with Freudian theory.

Dreams of psychoanalytic patients were also translated, and under hypnosis these students were able to make sense out of the "unintelligible" speech of mental hospital patients, reported to them by the hypnotist.

Regarding the controversial question of the sexual nature of Freudian symbol interpretation—which at first sight appears to be completely confirmed by these hypnotic experiments—Dr. Farber and Dr. Fisher suggested another explanation.

The language of the unconscious, they said, as revealed in dreams, myths and artistic creations, is much more primitive and limited than waking language, since it remains comparatively unchanged since early childhood.

In dreams, complicated adult experiences have to be expressed by a relatively small number of concepts, or symbols, many of which refer to the bodily functions most important in childhood. They also stressed the fact that dreams have many meanings, on different levels, and that it is impossible to "interpret" a dream without studying all the circumstances which produced it. Their experiments, they said, were an attempt to study unconscious language, through dreams, by isolating the various factors which operate in dream production.

This technique of producing experimental dreams provides a scientific method for verifying psychoanalytic theory, as well as for general study of the unconscious, including the formation of bodily symptoms in neurosis.

*Science News Letter, May 30, 1942*

## MEDICINE—PSYCHIATRY

## Marihuana Found Useful In Certain Mental Ills

**M**ARIHUANA, often blamed for crime and insanity among its users who smoke it in "reefers," "muggles" or "goof-butts," was reported as a drug of potentially "great usefulness in the treatment of drug addicts" and patients suffering from mental depressions and other nervous disorders.

This new and favorable picture of marihuana appeared in a report by Dr. Samuel Allentuck, of New York City, to the American Psychiatric Association meeting in Boston.

Dr. Allentuck used the drug experimentally in cases of mental depression and nervous disorders characterized by listlessness and lack of appetite. The drug was found to increase the appetite, and induce calmness and relaxation in those previously greatly agitated.