

different locations. Shock waves travelling downward deep into the earth are reflected back by certain structures if encountered. Experts, from a study of the recordings made by these reflected shock waves, are able to determine underground layers favorable to petroleum deposits.

Dr. Poulter's new method will provide economy in eliminating the need of boring holes, and it can be used in regions where boring would be exceedingly difficult, as in isolated mountainous country or in a search for oil under the sea. Dr. Poulter, who is associate director of Stanford Research In-

stitute of Palo Alto, Calif., has tested his method against conventional procedures in various locations.

In his procedure, the charges in the explosive pattern are set on stakes relatively close to the ground and spread in a hexagonal design. Depending upon the type of records sought, comparatively light charges are placed from five to 85 feet apart and detonated simultaneously. The method may be used to produce an essentially flat wave front of low amplitude over a relatively large area.

Science News Letter, November 13, 1948

#### MEDICINE

## New Way To Treat TB

➤ A WAY to improve streptomycin treatment for tuberculosis and bring its benefits to patients suffering from the very common, late type of the disease, fibrocascous tuberculosis, has been discovered by Drs. Edgar Woody, Jr., and Roy C. Avery of Vanderbilt University School of Medicine, Nashville, Tenn.

The method is to give the famous mold remedy with another medicine, potassium iodide. The streptomycin would be given by hypodermic injection and the iodide in drops to be swallowed in water.

Success with this treatment in tuberculous guinea pigs is reported by the Vanderbilt scientists in the journal, *SCIENCE* (Nov. 5). The guinea pigs were all infected with the same dose of TB germs. It was a big enough dose to kill all the untreated animals. Of those treated with streptomycin alone, 46.1% died. Of those treated with streptomycin plus potassium iodide, only 14.3% died.

The scientists hope they can get a grant of funds in order to study the treatment in human patients. They feel pretty sure it will be successful.

Streptomycin treatment alone has not

been too successful in this type of tuberculosis. The iodide acts to release the TB germs from the fibrocascous tissue in which they become entombed in the lungs of patients in late stages of the disease. Once the germs are released, the streptomycin gets a chance to act on them.

Science News Letter, November 13, 1948

#### PSYCHOLOGY

## Drawings Reveal Emotions In Children and Adults

➤ EMOTIONS in both children and older persons may be studied through analysis of their drawings, Dr. L. van der Horst, of Amsterdam, Holland, reported.

The very young child lives in intimate contact with his surrounding world, Dr. van der Horst told the Mooseheart Symposium on Feelings and Emotions in Mooseheart, Ill. It is as much a part of him as is the adult's body. The young child and his picture are one.

Between the age of four and seven, children draw because they need a motor outlet. It is not until somewhere between the seventh and tenth years that it is pos-

sible for the child to think of the object as apart from the self. It is then that the creative urge is revealed and the child begins to have a desire for drawings as symbols to portray his experience.

After the tenth year, the drawings are extended to include human relationships and the child's own imaginings begin to show up. It is even later that the child begins to demand of his drawing that it be an objective reproduction of his intention.

By studying a child's drawings and their linkage to his imaginative life and emotions, we find a new approach to the study of the child mind, Dr. van der Horst concluded.

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