



OUTSIDE AND INSIDE

A shelf of medical sundries, such as might be found in almost any household, and the same shelf, as the X-ray sees it. Note that both sides of the bar of castile soap are visible at the same time: the lettering on the back side is reversed.

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pig opened the box. This forced the pig to come to a decision and act on it. But the effort to do this was evidently too much for the pig and within a few days it developed neurotic symptoms. Since its whole disposition has changed and from being friendly and docile it became morose and hostile.

Because the pig or sheep has a simple way of life, uncomplicated and unobscured by the ethical standards and social traditions of human life, it provides an ideal test subject, Dr. Liddell pointed out, for analyzing the essential conditions that produce nervous strain and derangement.

Use Little of Brain

The very small part of man's relatively large brain necessary for intellectual processes, or what is commonly called thinking, was described by Dr. Leland B. Alford of St. Louis.

This might be called the seat of the intellect or the brain center for thought except that such psychological terms have gone out of fashion. It is located,

in right-handed persons, at the center of the left side of the brain.

Any other part of the brain can be injured or removed without interfering with intellectual processes, Dr. Alford and other scientists have found. Dr. Alford illustrated this point with several case histories, among them that of a 60-year-old business man. Apoplexy left this man almost completely paralyzed and unable to speak except for one expression of two words and the ability to swear when angry. In spite of this, the patient for two years has been conducting his business and managing several farms through an agent who is able to make out the patient's incoordinated gestures. Although the patient could not write his name upon request, he recently drew a plot of some farms without error. His mentality is excellent, Dr. Alford said, though X-ray pictures show a large part of his brain has been injured.

This and several other cases show that, contrary to general opinion among psychologists, different parts of the brain are responsible for speech and for thinking or intellectual processes. The brain area concerned with speech can be injured without affecting mentality.

The cortex or outer part of the brain is not so much concerned with thinking processes as psychiatrists have believed, Dr. Alford said.

Calcium for Hallucinations

Discovery that calcium, harmless chemical normally present in the body, can be used to calm the excitement and banish the hallucinations of mental disorders was reported by Dr. R. W. Robb of the Osawatomie (Kansas) State Hospital.

Scientists have known many drugs that would produce hallucinations but very few, other than narcotics such as morphine, have been known to relieve hallucinations, Dr. Robb pointed out.

The fact that lack or deficiency of calcium in the body causes nervous irritability is well known. Dr. Robb discovered its soothing effect when he gave it to a patient in the course of certain tests he was making. This patient's improvement led him to try it in 40 other cases of long standing. All were improved by the weekly injections of calcium.

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Soviet health officials are to study medical lore of India and Tibet, to see whether certain native remedies may have scientifically sound value.

RADIO

Hope to Predict Radio Conditions in Advance

HOPE that scientists will be able to predict radio transmission conditions a month or more in advance was held out by A. K. Ludy of the U. S. Coast and Geodetic Survey and A. G. McNish of the Carnegie Institution's Department of Terrestrial Magnetism. To correlate more closely the activity of the earth's magnetic field with radio transmission, these scientists are compiling a twice daily measure of the magnetic conditions as observed at seven world-wide stations. These "character figures" will be distributed by Science Service throughout the world and are expected to reveal practical useful relations between radio and earth's magnetism.

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electricity and repeats the process at regular intervals. Thus is produced a rapid succession of electrical pulses which are sent through a radio tube amplifier to a loud speaker. If the pulses come 256 times a second, for example, the note middle C is produced by the instrument.

The frequency of the pulses and therefore the pitch of a note is determined by the value of electrical resistance through which the condenser discharges, just as the speed of filling a water tank depends on the size of the pipe through which the water flows. Movement of the fingers on the strips atop the little instrument box changes the electrical resistance and, hence, the tone produced.

"Admittedly," said Dr. Danforth, "no electrical device at present available can imitate all the effects available in conventional instruments. But electrical systems can simulate these effects and, moreover, can produce effects which the conventional instruments cannot. Among these are unlimited volume, unlimited range of pitch, wide variations in timbre and sensitivity of the instrument to a very light touch. Acceptance of these features must await the day when trained composers are moved to weave them into artistic creations."

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Guatemala plans to use airplanes to spray banana plantations.

The decimal system was used in India about 2,700 B. C., judging by discovery of a regularly marked measure.