

MEDICINE

Drug Makes "Dead" Man's Heart Beat

► A POWERFUL new drug to save the lives of people whose hearts stop beating on the operating table has given "immediate and dramatic" results in one case, two Arizona doctors have reported.

The drug, called Levophed by its manufacturer, Winthrop-Stearns Inc. of New York, was injected into the right ventricle of the heart of a 26-year-old man who had been "dead" more than four minutes. His heart resumed beating immediately, Drs. Frederick A. Shannon and William N. Henry of Wickenburg, Ariz., state.

The compound belongs to the class of drugs called pressor amines, which act by constricting the blood vessels. It has previously proved life-saving in its ability to elevate blood pressure from the shock level accompanying a severe heart attack.

Of great significance to the Arizona surgeons was the fact the patient recovered completely and was back driving a truck less than two months after the operation. Some doctors believe the brain cannot survive more than three minutes after the heart stops beating without suffering permanent damage.

When the patient's heart failed suddenly during the closing of an incision following an appendectomy, the doctors started forced respiration with oxygen. Three minutes later, the chest was opened to permit massage of his heart, and then a large dose of Levophed was injected.

The patient began to breathe in the next ten minutes. With the exception of a brief period of excitability and moodiness, his recovery was complete, the doctors state.

Drs. Shannon and Henry report their use of the powerful heart-stimulating drug on a clinically "dead" man in *Arizona Medicine* (July).

Science News Letter, July 17, 1954

MEDICINE

Doctor Reads Palm To Judge Anemia

► WHEN THE doctor wonders how severely anemic a pale patient is, he can find out by doing a bit of palm reading. Unless the anemia is severe, the skin creases across the palm will retain their bright pink or reddish pink color, no matter how pale the skin between may be.

When this color is lost from the skin creases, the hemoglobin is likely to be below seven grams per 100 milliliters of blood, or less than half the normal value, Dr. Jacob J. Silverman of the Staten Island Hospital, New York, reports in the *Journal of the American Medical Association* (July 3).

In tests on 1,500 patients, Dr. Silverman found this simple bedside test gave "remarkably accurate" results when checked against laboratory tests.

Science News Letter, July 17, 1954



"GAMES" AS TEACHERS—A comfortable approach to solving arithmetic problems is taken by eight-year-old Eric Newhall, a third-grade pupil at Agassiz School, Cambridge, Mass., who is using a mechanical device developed by Dr. B. F. Skinner of Harvard University to aid teaching. A ringing bell immediately informs him when he has given the correct answer to his problem. He learns, yet his teacher is relieved of the tedious correction of papers.

GENERAL SCIENCE

Teaching by Machine

► A MACHINE for teaching arithmetic, spelling and reading while at the same time serving as an intriguing toy for the child has been developed by Dr. B. F. Skinner, professor of psychology at Harvard University.

Experiments with rats and pigeons have shown Dr. Skinner that efficient learning requires that response to a problem be immediately followed by what the psychologist calls a "reinforcement."

For the rat who makes the correct turning in a maze, the reinforcement might be a pellet of food. The pigeon who pecks at the right key of a "slot machine" is reinforced by a tasty tidbit.

For a child working out an arithmetic problem, it is often enough reinforcement for him to receive a reassurance that he has the right answer. However, to be effective the reinforcement for either animal or child must follow right away on the answer.

On Prof. Skinner's machine, the child reads his problem printed on a paper tape visible through a window on top of the box-like device about the size of a small record player.

The child indicates his answer by moving sliders upon which the digits from 0 to 9 are printed. When he has set his answer he turns a knob.

If the answer is correct, he is rewarded by the ringing of a bell. If he is wrong, the knob does not turn freely. He must turn it back and set a new try at the answer.

When he gets it right, the bell rings and the knob turns up a new problem. By this device the child is aided in learning to

figure and the teacher is relieved of the time-wasting, temper-trying task of correcting stacks of arithmetic papers.

Science News Letter, July 17, 1954

ANIMAL NUTRITION

Sheep Diet Affects Wool Fiber Strength

► SUCH PHYSICAL properties of wool fibers as strength and stretchability can be changed by changing the sheep's diet, Drs. G. L. Clark and V. E. Buhrke of the University of Illinois have discovered.

Adding sulfur to the sheep's diet, for example, changes the rate at which a fiber that has been stretched goes back to its original size, they report in *Science* (July 2).

Using radioactive sulfur as a tracer, scientists had previously found that sulfur in the diet of sheep gets into body chemical reactions and appears in the wool within two weeks.

In the new tests, the Illinois scientists found that as sulfur is added to the sheep's diet, there is a greater tendency for stretched wool fibers to keep their extended configuration and to resist relaxation after stretching is stopped.

Whether or not adding sulfur to the sheep's diet would produce more satisfactory wool for suits and coats, the finding that changes of the diet produce physical and chemical changes in the wool is considered significant.

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