

MEDICINE

Banthine for Ulcers

This chemical effectively treats even peptic ulcers of long standing. General distribution of the drug is now planned in order to make general use possible.

► ULCERS of the stomach can be treated successfully without surgery through use of a new chemical, called banthine.

Even peptic ulcers of considerable severity and long standing were relieved and healed by banthine doses in the clinical trial reported by a team of Duke University physicians to the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (July 8).

The effect on symptoms of patients using banthine, usually four doses by mouth a day, has been "gratifying," Drs. Keith S. Grimson, C. Keith Lyons and Robert J. Reeves report. The treatment promptly relieves the pain of ulcer and those originally incapacitated, with only two exceptions, returned to regular work.

In the test series of a hundred patients, 50 of the 55 who would conventionally require surgery have not required an operation. Of 38 patients with duodenal ulcer without indications for surgery, 34 are now able to eat regular food.

Banthine, the drug used in the ulcer

treatment, is a quaternary ammonium compound with the long chemical name of beta-diethylaminoethyl xanthene-9-carboxylate; and it is used as the methachloride or methabromide. Because of the encouraging

results obtained in the Duke Medical School tests, general distribution of banthine is planned in order that physicians may now use it. The drug is produced by G. D. Searle & Co., Chicago.

The usual schedule used by the Duke doctors in treating ulcer patients was 100 milligrams every six hours day and night. After three to eight weeks when healing has occurred, patients decrease the amount of banthine taken to 50 milligram doses, or 200 milligrams a day, continuing this indefinitely. They go back to larger doses if pain again develops under tension, strain or illness.

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Tools Help Blind See

► ELECTRONIC pencils which "read" to blind people, a typewriter which communicates with the deaf-blind, a magnifier based on television principles, these are some of the instruments shown in Philadelphia to a research session of the American Association of Instructors for the Blind.

Many of the new tools to help the blind "see" are complicated arrays of electronic tubes and some of these have not yet been perfected. But a simple attachment to a typewriter, without any electronic tubes, enables a person who can type to talk with

any deaf-blind person at the speed he can type.

The attachment is a little box containing a reel on which are printed the Braille characters. The blind-deaf person places his finger on a hole in the top of the box and as his friend types a letter on the typewriter, it is brought up to the hole and the blind-deaf person "reads" it with his finger.

The instrument was developed by the technical research division of the American Foundation for the Blind.

Three "guidance" devices which use the techniques of radar to warn blind persons of obstacles were demonstrated. However, the demonstrators emphasized that all the devices are still in the experimental stage and need a great deal of work before the average blind person can use them.

The results of tests with a "reading pencil" developed by Dr. Vladimir Zworykin of the R. C. A. Laboratories were reported to the session by a member of the staff of the Institute for Human Adjustment at the University of Michigan, Dr. Emily Willerman. She and Dr. Wilma Donahue found that, with the pencil, a blind person can learn to read ordinary print and typewritten copy.

The pencil, pointed at a letter, translates the shape of the letter into a distinctive noise which is heard by the blind person through a hearing aid.

Changes in type, however, are confusing and it usually takes additional instruction when the style of type is changed. In about 25 hours, the average blind person can achieve a vocabulary of about 190 words which can be read in sentences.

The first experimental model of an electronic magnifier for almost blind persons, demonstrated at the session, was based on television principles. A small oscilloscope, in an instrument about the size of a flashlight, scans the type to be magnified and it is then transmitted to an ordinary tele-



READING PENCIL—Nancy Bradley, 8, Kenwood, Pa., who was totally blinded in a sledding accident when she was five, tries out an electronic stylus, a "reading pencil," developed by R.C.A. The pencil translates letters in a line of type into recognizable sounds. Dr. Emily Willerman, of the University of Michigan, shows Nancy how to operate the mechanism.

vision screen. It magnifies 15 times, which means that about three letters would fit on a five-inch television screen.

Developed at the Franklin Institute, from stock parts, the demonstrators stressed that many factors have yet to be worked out

PHYSICS-CHEMISTRY

Atoms Make Direct Picture

► EXPLODING atoms that set off a "chain reaction" in your camera, giving you a direct print of the picture you are taking, are promised from a new light-sensitive process just announced.

This direct photo print-out paper will be commercially possible when some way is found to make stable the chemical, nitrogen iodide. This is the light-sensitive compound that has been found to do the trick usually done by a silver chemical.

A photo-print is made when a light flash hits paper that has been coated with small amounts of a light-sensitive chemical. Dr. J. Eggert, of the Photographic Institute of the Eidgenossischen Technischen Hochschule in Zurich, discovered that nitrogen iodide is a very efficient photo-chemical. For his most valuable contributions to photographic science Dr. Eggert was presented the Progress Medal for the years 1949 and 1950 of the Royal Photographic Society of England.

When nitrogen iodide is coated on paper in very tiny amounts and then exposed to a high intensity light flash, the tiny particles explode, making the photo-print. This process is 1000 times faster with nitrogen iodide than when ordinary print-out paper is used.

Although commercial development of the process must wait until nitrogen iodide can be made more stable, pictures using nitrogen iodide finely dispersed on paper

before it can be determined whether the magnifier is practicable.

The meeting was held at the Franklin Institute with Dr. Gabriel Farrell, director of the Perkins Institution, Watertown, Mass., as chairman.

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have been made experimentally. The paper looks black before the print. Where each unit of light energy, or quantum, explodes the particles of nitrogen iodide, the paper turns white.

This process is highly efficient, since each quantum of light explodes more than one molecule of nitrogen iodide. Or, as Dr. Eggert reported to the third international conference on "Fundamental Mechanisms of Photographic Sensitivity," the "primary quantum efficiency of nitrogen iodide as a photo-chemical is much better than one." Just how efficient it is depends on the amount of the chemical that is dispersed on the paper.

The keeping quality of the photo-prints made by this process is limited to a day or so, Dr. Eggert reports. The image can, however, be converted to a silver one that then keeps as long as normal prints.

The photographic quality of the prints now being made experimentally is similar to that obtained by Xerography at the time that process was disclosed in October, 1948. Xerography is a completely dry process for taking and printing pictures.

Although it has been known that nitrogen iodide was unstable to heat and that it explodes under mechanical pressure, Dr. Eggert's researches have proved that the quick change in the chemical when exposed to a light flash is not due to the heat of the flash.

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will look at them, admire them, and so be helped in remembering.

If the left-handed child is old enough to go to school and learn to write, the problem of training him in right-handedness is a little different. Whether he should be changed over depends, advises Dr. Hildreth, on how fixed his left-handed habits have become and whether the re-training will cause nervous tension. After a child has been writing in school for a year or more with his left hand it is usually too late to re-train him.

But he should not be left to "nature." If it is decided that he is to be left-handed, then he should be given special training so that he will write well with his left hand. Start him at the blackboard, not with paper, Dr. Hildreth advises. If he stands at the extreme left end of the board to start his writing, there will be no temptation to write backwards, mirror-fashion. And he will not be likely to crook his wrist around at an awkward angle. This is done by the left-hander writing on paper so that he can see what he is writing.

When he starts writing on paper, give him a pencil, not a pen, to work with and turn his paper at an angle the reverse of that used by the right-hander. A slope-top desk is a help.

If a child or an adult loses the use of his right hand it is not too difficult to train him to use the left. War veterans have been taught left-handed writing in five to ten days. Teach the child to use his left hand first to tap with a hammer. Then he should follow the edges of openings cut out like a stencil in a sheet of copper. Later he should practice on the blackboard and finally on paper.

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ENTOMOLOGY

Fly Destroys Central American Corn Crops

► A FLY which destroys whole fields of Central American corn each year, yet is little known to science, is being studied in Guatemala by experts from Iowa.

Men who know corn, researchers at Iowa State College's Tropical Research Center in Antigua, Guatemala, report the new insect pest is so destructive that it can ruin 98% of a stand of corn in a single heavy infestation.

The fly's scientific name is *Euxesta major*. It does its damage while still in the larval stage. The young worms bore down into the growing cornstalk and either kill the stalk outright or leave it dwarfed and bent.

The fly maggot is currently at work, it is believed, from Costa Rica north to Mexico. U. S. Department of Agriculture specialists say there is no indication that *Euxesta major* exists in the United States.

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PSYCHOLOGY

Train Baby's Right Hand

► MOTHERS should not leave it to "nature" whether the baby is to become a "southpaw" or right-hander. The mother should train her baby to right-handedness beginning in the cradle or high chair.

This is the advice of Dr. Gertude Hildreth, of Brooklyn College, psychologist who has made a special study of handedness and its effect on stuttering and other defects.

No baby is born left-handed, she reported in the JOURNAL OF GENETIC PSYCHOLOGY (March). The little baby will pick up objects with either hand or both. Right- or left-handedness is the result of training, conscious or unconscious.

The training should be unobtrusive and no mother should make a scene and grab

a toy away from the baby who has taken it in his left hand. Nevertheless, she should be persistent in encouraging use of the right hand. When you give a baby a toy, put it in his right hand. When he learns to feed himself, have him hold his spoon in his right hand. Place articles that he is going to use on the baby's right. Put the crayon in his right fist.

It is no use to tell a child, "Use your right hand," Dr. Hildreth warns. In the first place, the training should be done before the child is able to talk. In the second place a child under six cannot be expected to know right hand from left. If you want him to remember, put a bright ribbon on his right arm, or give the little girl a pretty bracelet to wear on her right wrist. They