EDUCATION

Speech Defects Treated

As the Institute of Logopedics in Kansas enters its fourth decade of treatment, training and research, 30,000 cases are on record.

➤ PERSONS with speech defects are being taught to communicate at a unique residential institution known as "Speech Town" in Wichita, Kans.

The Institute of Logopedics is a village of 51 buildings housing approximately 500 children and adults who are trying to master their handicaps.

Since 1934, the institute has been dedicated to a three-fold program of teaching speech, training therapists and promoting research.

During the past three decades 30,000 people have come to Speech Town from every state and 14 other countries. Rehabilitation for some patients takes two weeks, while others stay as long as five years, Dr. Martin F. Palmer, founder and director of the institute, told SCIENCE SERVICE.

The clinical program at the center can be adapted to a variety of afflictions that inhibit normal speech, such as cerebral palsy, cleft palate, stuttering and deafness. Aphasia, the loss or impairment of the power to use or understand speech, and dysphonia, the loss of voice caused by physical and psychological illnesses, are also treated.

Special classroom facilities and programs of physical and occupational therapy are available, along with individual daily speech and language therapy.

Specific techniques vary according to the type of speech problem. For example, many serious speech cases respond to music, for the musical areas of the brain usually remain intact.

Dr. Palmer pointed out that the institute also tries to provide a "home-like atmosphere" for children, and to promote effective social participation through varied recreational facilities.

When possible, parents and children live together in modern apartments. However, if parents are unable to relocate, a child is placed in an apartment with one or two other children under the supervision of a housemother.

The institute is affiliated with Wichita State University, which offers professional training programs for bachelor's, master's and doctor's degrees.

Thirty thousand case histories of communicative disorders assembled at the Institute, and other research facilities are providing scientists with new techniques for the treatment, improvement or possible cure of speech defects.

• Science News Letter, 87:119 February 20, 1965

TECHNOLOGY

Blind Test Themselves

➤ A BALL that will "bounce and beep" its way into the hand of a blind child, a hand-held navigation system for personal use of the blind—cousin to the ones that guide atomic missiles—braille automatically produced from the same tape that sets type: these are a few of the sensory aids for the blind and deaf-blind to be tested by the handicapped themselves.

In a program to be conducted at the Massachusetts Institute of Technology, Cambridge, these items and others will be tested by blind subjects, redesigned if necessary and, when advisable, developed to prototypes which could be produced by outside manufacturers.

Scientists and engineers from five other universities—Harvard, Tufts, Brandeis, Cornell and Pittsburgh—and from the National Institutes of Health and American Foundation for the Blind are collaborating in the launching of this Center for Sensory Aids Evaluation and Development.

"Too often potentially fine devices and ideas are discarded for lack of adequate screening, testing and redesign," said John K. Dupress, managing director of the center.

In an attempt to fill this gap, devices from universities, industry, private individuals, Government agencies and laboratories will be accepted for evaluation. Special consideration will be given to items that could potentially help the blind and deaf-blind earn a living.

On the agenda for early testing is a high-speed braille writer, developed at M.I.T. by Prof. Dwight M.B. Baumann, research assistant Daniel W. Kennedy and several students, which can print braille on sheets of paper at the rate of 16 characters per second. This electro-mechanical device can be driven by several signal sources, including a braille keyboard and an electric typewriter, and operated by sighted operators or blind ones with the help of sighted readers and proofreaders.

An inertial navigation system that senses movement off a straight line will also be tested. It is about the size of a cigarette package and is held flat between the thumb and index finger of the right hand.

When the blind person holding this battery-operated device veers off course to the left, a projection from the side pokes him in the thumb; when he veers off to the right he is poked in the index finger.

The system of gyroscopes and accelerometers that operates this instrument is also found in missile guidance systems.

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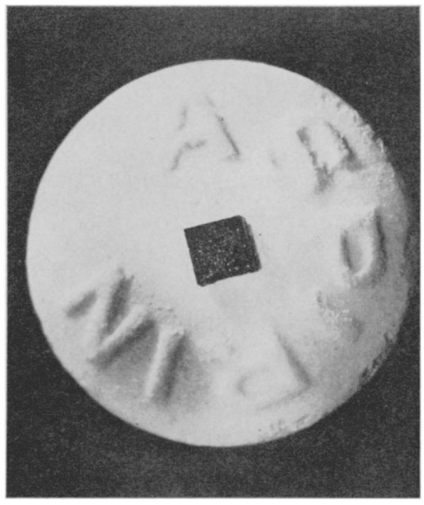

Burroughs Corp.

COMPUTER SHRINKER—Tiny circuits, so small that 30 of them will cover the top of an aspirin tablet, form the basis of a computer less than one and one-half cubic feet, built by Burroughs Corporation, Detroit.

PSYCHOLOGY

Newborn Babies Prefer Certain Shaped Figures

➤ NEWBORN BABIES can recognize shapes and even show preferences for certain patterns, a recent study has shown.

Seventeen newborns, two to four days old, who were exposed to pairs of shapes which had different numbers of angles, showed a definite preference for figures with 10 turns over shapes with five or 20 turns.

This preference is of particular interest because an earlier similar test on elementary school children and adults produced the same choice—10 angle shapes.

Prof. Maurice Hershenson, University of Wisconsin, Madison, Prof. Harry Munsinger, University of Illinois, Urbana, and Prof. William Kessen, Yale University, reporting in Science, 149:630, 1965, note that the infants' preference for the figure with 10 turns indicates "a preference for stimuli of intermediate complexity, and the overall preferences show that the least complex stimuli were the least preferred."

Three shapes were presented in pairs to the infant, so that each shape appeared once on the right side and once on the left. The six stimulus pairs were shown in a predetermined random order.

The baby's preference for a shape was determined by the number of eye fixations on a particular pattern. These were recorded on infrared film by a motion picture camera.

During the experiment, the baby was placed in a cushioned cradle on top of a table in a small room.

The data may be added "to the accumulating evidence which now strongly suggests that the perceptual system of the newborn human is much more highly organized than previously thought," the psychologists point out.

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