

EDUCATION

Hits Language Problems

► **LANGUAGE DISORDERS**, often “unrecognized, misdiagnosed or misunderstood,” are causing many intelligent children to fail in school and be called forgetful, lazy and stubborn at home, according to a U. S. Office of Education specialist on speech and hearing.

Dr. Nancy E. Wood calls it “shocking” that children with communication problems affecting their ability to speak, read and write are “almost completely forgotten” in educational planning. Such children do not have “a fair chance for an education,” she maintains.

She cites three major disorders.

A child with aphasia, a speech problem, may be a fluent talker, but has difficulty choosing the right word for what he wants to convey. He may, for example, be unable to use “bookcase” and resort to saying “the place where books are kept” instead. These “severe word-finding problems” are “confusing to the listener and embarrassing to the user.”

GENERAL SCIENCE

Young Scientists Cruise

► **YOUNGSTERS** whose scientific projects were honored by the U. S. Navy this year joined seagoing units for a five-day cruise and a first-hand look at Navy science in action, afloat and ashore.

The high point of the fourth consecutive annual Navy Science Cruiser program began Aug. 19 for part of the 211 winners picked from high school youths who exhibited at the 1961 National Science Fair-International and earlier regional fairs. **SCIENCE SERVICE** coordinates the regional fairs and conducts the national event.

The East Coast cruises for 104 students from Aug. 19 to Aug. 26 were based at Mayport, Fla.; Norfolk, Va.; Panama City, Fla.; Newport, R. I., and Charleston, S. C. The only embarkation point on the West Coast, from which the remaining 107 cruisers sailed on Aug. 26, was San Diego, Calif. The West Coast group returns home Sept. 2.

The Naval Air Reserve Training organization’s “weekend warriors,” headquartered at Glenview, Ill., flew the boys from airfields near their homes to the coastal cruise bases.

In addition to their “sea duty,” the 211 junior scientists toured Navy laboratories, meeting scientists and technicians for seminars and informal discussions. The West Coast contingent visits the electronics laboratory at San Diego.

In previous years the cruises were conducted in late September and early October. The late summer scheduling served the dual purpose of preventing loss of school time by the students and enabling them to join Navy midshipmen on their regular training

With alexia, a reading problem involving memory or recall, a child fails to associate written words with what they describe. He may be unable to give an account of what he has just read, either aloud or silently. He may reverse words, seeing “saw” for “was,” “ton” for “not,” or “won” for “now.”

With agraphia, a writing problem, a child is unable to associate words he writes himself with what they symbolize. He may be unable to identify individual letters after writing them. He has trouble with his spelling.

Other behavior traits, added to poor classroom work, may provide significant clues in diagnosing disorders. The child may assume unusual postures when reading or writing. He may spend much time daydreaming. He may talk excessively and compulsively without really communicating, as if to “fill every void in the conversation with verbalization so that (he) will not have to respond to talk from others.”

In all such disorders, Dr. Wood writes

in *School Life*, 43:5, 1961, the Office of Education journal, causal factors are more important than symptoms, both for diagnostic purposes and for choosing proper corrective programs. The disorder may be part of a multiple problem, linked with mental retardation, hearing loss or emotional disturbance.

• Science News Letter, 80:149 September 2, 1961

TECHNOLOGY

New Computer Called “Fastest Ever Built”

► A **DIGITAL** computer described as “the fastest ever built” is now in use at Lincoln Laboratory, Lexington, Mass., a research center operated under Air Force contract by the Massachusetts Institute of Technology.

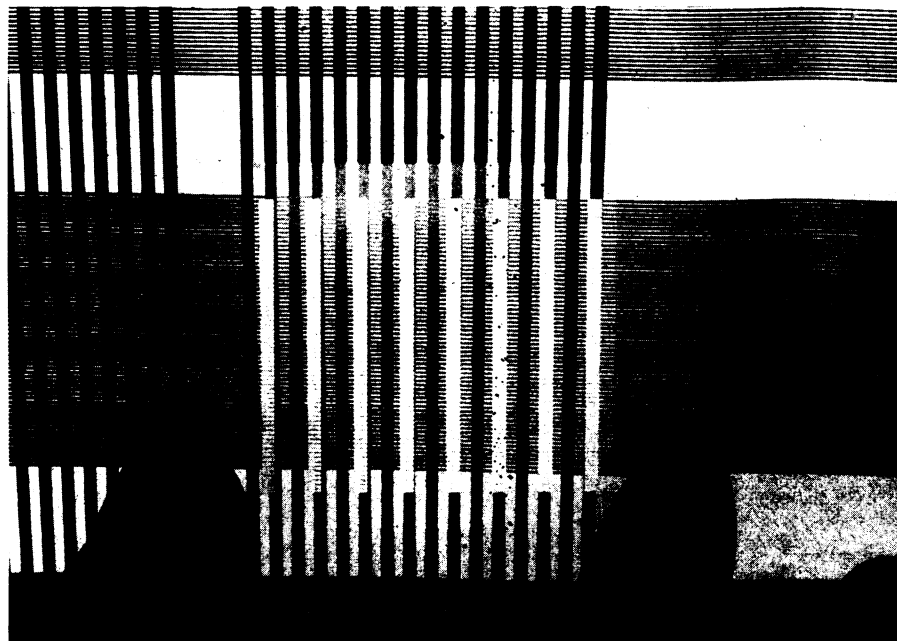
Called the FX-1, the computer is modest in size but notable for high operating speed. Lincoln technicians believe it may be the forerunner of “a new generation of machines, ten times faster than any computers in general use today.”

The FX-1’s “read-write cycle time”—the time needed to read a computer word out of the main memory and write in a new one—is three-tenths of a microsecond. The fastest older models took two to 12 microseconds.

The “clock rate,” or timing pulse rate of the FX-1’s logic circuits, is 50,000,000 pulses per second, four times the rate of the fastest commercial machine previously reported.

The working model was designed to test both fast logic circuitry and magnetic film storage. The computer is the first with a main memory using thin magnetic films instead of ferrite cores for high-speed, random-access storage.

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MEMORY ELEMENTS—Glass plate with small rectangular magnetic-film memory elements is being placed on the printed-circuit wiring assembly of the high-speed main memory in the FX-1 computer.