

behavioral sciences

NEUROLOGY

Help from computers

A child's physical movements and coordination are windows on the state and health of his nervous system. Mental, emotional, social and other factors are often reflected in his motor development. But these correlations are complex and the data have never been adequately studied or even collected. As a result scientists, in studying children's development, must show a fine combination of mathematics and intuition.

Now these problems may be largely solved with a computer-cathode ray instrument developed by Purdue engineer Richard E. Garrett.

The computer can store data on how psychological, sociological, physiological and intellectual factors affect a child's physical movements. Then through the use of display devices, these movements can be thrown onto a television screen. A scientist can, for instance, call for display of a two-year-old in motion, then superimpose that same child's movements at three years of age, showing development or lack of it.

At present Dr. Garrett and child development specialists are trying to determine what factors in movement should be included in the new technique. They are also working on a simple computer language that can be used by any psychologist.

SOCIAL RESEARCH

A shift among engineers

A shift in the engineer's orientation toward solving social problems and a move to bring more women into the profession are foreseen by Russell R. O'Neill, associate dean of the UCLA engineering school.

Once the Vietnam war ends, American engineers will focus their talents more on domestic problems than on space or ocean technology, says Dr. O'Neill.

Working with experts in other fields, "the engineer can help solve almost any social problem," the dean predicts. He can develop low-cost kidney machines, germ-free recovery rooms, burglarproof cars and homes, urban transportation networks and low-cost housing.

The university is currently planning curriculum changes to prepare the engineer for this social orientation; Dr. O'Neill expects more women to be recruited for the same reason.

In addition, the California Institute of Technology this month agreed in principle to admit women for undergraduate work. If approved by trustees, the plan will admit women in September 1970.

ARCHAEOLOGY

Computers for Camelot

A computer has joined the search for Camelot, legendary court of King Arthur.

Archaeologists are looking for Camelot at a site in South Cadbury, but since the area has been occupied for about 4,000 years, it is confusingly rich in ancient remains and teams need technical assistance in choosing profitable spots to dig.

They are using geophysical instruments to sense hid-

den shapes under the ground and this information is fed into a computer for interpretation. Trenches indicating the foundations of a rectangular building would be most pertinent to the Dark Ages, the period under investigation.

The sensing instruments, proton magnetometers, act something like modern witching rods. When moved over the surface of the ground, they read out underground shapes in the form of dot density patterns. Computer processing is needed, in this case, to refine interpretations from the patterns.

A proton magnetometer measures the earth's magnetic field which is modified by buried pits, ditches, kilns and hearths.

PUBLIC HEALTH

Abortion law repeal urged

Fully legalized abortion, without exceptions, has been endorsed by the American Public Health Association's governing council.

The resolution urging repeal of all laws making abortion a crime goes far beyond any liberalization of laws now in effect, but coincides with stands taken recently by various women's study groups and family planning associations.

The APHA, largest society of public health professionals in the world, took action on the resolution at its annual meeting this month.

It declared: "In order to assure the accepted right to determine freely the number and spacing of their children, safe legal abortion should be available to all women." Removal of criminal laws against abortion would also reduce the health risk that comes with illegal operations, says the APHA.

PSYCHOSOMATICS

Propriety and blood fats

The man concerned with social propriety and bothered by guilt feelings appears to run some risk of high cholesterol levels. High cholesterol in the blood is linked to heart disease.

The relation between conforming personalities and cholesterol was found in studies of fireman and supermarket employees, it was reported at the meeting of the American Public Health Association.

Firemen showed a much stronger link than did supermarket managers and workers, although in both groups it was the proper, dependable, conscientious types who adhere to social norms that had high cholesterol levels. More general traits of self-control and responsibility, however, were not notably associated with cholesterol.

Among firemen, the man also given to passivity, guilt and self-criticism runs an additional risk of cholesterol.

The investigators suggest that work done by firemen, doctors and others in emergency situations may heighten cholesterol levels in susceptible people.

This new study by medical researchers at the University of North Carolina, the Hames Clinic in Claxton, Georgia, and the Harold Brunn Institute in San Francisco adds new strength to the relationships already established between personality and heart attack.