

Social Science Notes

NEUROPHYSIOLOGY

Motor Cortex No Guidance System

The motor cortex—major center in the brain for all skilled, voluntary movements—is a more elementary structure than anyone has suspected, according to new evidence.

Rather than guiding movement, the motor cortex determines only how much force will be applied, reported Dr. Edward V. Evarts of the National Institute of Mental Health in Bethesda, Md.

Dr. Evarts reported his research to an international conference of neurophysiologists last week in New York. It has important implications for restoring the use of paralyzed muscles.

Using the analogy of an automobile, Dr. Evarts said the motor cortex is more like manual than power steering. Messages are coded in terms of force, which means the guidance system is probably located in higher brain centers.

Dr. Evarts made his discovery by implanting micro-electrodes in single nerve cells and correlating their discharge with the voluntary movements of monkeys.

He said this knowledge of the motor cortex should open new ways of compensating for paralysis.

PSYCHOLOGY

Obesity Best For Some

Some fat people are better off fat than skinny, because they cannot tolerate the demands placed on thin people, a Northwestern University psychiatrist believes.

To a "psychologically fat" man, obesity is one way of avoiding unpleasant physical and mental challenges, Dr. Howard D. Kurland reported to the Academy of Psychosomatic Medicine meeting in Las Vegas. Until he loses weight, such a man has no significant psychiatric disturbance.

Dr. Kurland based his conclusion on a study of 30 overweight men at the U.S. Naval Hospital in Oakland, Calif. By strict dieting, the men thinned down, but upon release many of them shot right back to butterball status, said Dr. Kurland.

One patient, after losing 50 pounds, discovered he was expected to be more ambitious at work and more physically and sexually active at home. He withstood these "psychologic hardships for little more than a week" and then "overate massively," said Dr. Kurland. Only after regaining all his weight was he able to restore his emotional equilibrium.

Thus, in the case of the psychologically fat man, there is often more to lose than mere flab.

SPEECH

Key To Speech Rhythm Isolated

The key to the rhythm of speech appears to lie in the rate at which words and sentences are spoken rather than in variations of pitch and loudness.

Dr. Richard B. Hood, of the department of hearing and speech science at Colorado State University singled out the essence of rhythm by having graduate students rate the speech of 22 young deaf men.

Those deaf individuals who drew out syllables and took a long time to say sentences got the worst rhythm

scores, said Dr. Hood. The correlation between duration and rhythm was a very high 92 per cent.

Variations in loudness or intensity were important to rhythm, but considerably less so than duration, said Dr. Hood. There was no correlation whatsoever between rhythm and changes in pitch. The speech had been filtered, he said, to remove its intelligibility cues, leaving only rhythm.

Dr. Hood's work, reported to a conference on speech and hearing in Washington, should aid in teaching the deaf to speak. "If a child has good articulation and still cannot be understood when he yaks," said Dr. Hood, "he may need better rhythm."

PSYCHOLOGY

Power Of Affection Measured

So great is the power of affection that it can counter even the physical impact of electric shock, according to some Baltimore studies on dogs.

Normally, electric shock will increase a dog's heart rate and blood pressure. But the simple act of petting the animal while it is being shocked holds down its heart rate by half, reported Dr. Horsley Gantt of the Johns Hopkins University Pavlovian Laboratory. The gesture of affection also reduced markedly the dog's reaction to pain.

Nor is direct affection the complete story. Dr. Gantt discovered that no more than the presence of a person in the experimental room could soften a shock's impact.

Humans are equally susceptible, said Dr. Gantt. For instance, reminding them of emotionally loaded past events has a greater physiological effect on people than an electric jolt, he said.

Dr. Gantt terms his experiments the "Effect of Person," which among other things, points up the "tremendous role of the physician," he said. A good bedside manner may well be more than an old worn-out cliché.

Not all dogs, however, responded equally to affection, said Dr. Gantt. Some had almost no response; others, particularly the neurotic dogs, were greatly influenced.

HEALTH SERVICES

Russian Health Study

Health services in Russia are all free and operated by the government, according to a report of a recent U.S. delegation on Hospital Systems Planning. The group visited five major cities in the Soviet Union last summer.

The Russian health services are all provided by salaried personnel who are highly organized, in much the same way as in military medicine in the United States. However, there is very little freedom of choice for either the patients or the professional workers.

The medical services and institutions exist under quite standardized systems established by the Government, and there is little opportunity for new measures or experiment.

The visit of U.S. medical men to the Soviet Union was planned by the Public Health Service, Office of International Health, and the State Department. It was set up in exchange for a Soviet hospital delegation that had visited the United States during 1963.