

PHYSIOLOGY

No Machine Like Brain

The idea that a machine can be created to work like the human brain is attacked by a British scientist who believes the idea will be eventually discarded.

➤ MAN'S mind has not been able to make a machine that works like his own brain, Dr. Geoffrey Jefferson, professor of neurosurgery at Manchester University told the British Association for the Advancement of Science at Newcastle-Upon-Tyne, England, taking issue with the theory of cybernetics put forth by Prof. Norbert Wiener of Massachusetts Institute of Technology.

"There is no authority for assuming that the brain works like a mechanical or electronic machine," Dr. Jefferson said. "There is definite similarity, especially on the small scale of two nerve cells. But it may be a great mistake to assume that nerve action is the same throughout the infinitely complex human nervous system.

"We do not know how nerve impulse is translated into thought. We haven't the slightest clue to the mode of formation of worded concepts."

Man is the only animal who chops up sound to make speech, Dr. Jefferson said. But he believes that there may be an unrecognized similarity to speech in the lower animals.

Dr. Jefferson defined the brain as a collection of data stored as experience and synthesized into thought and responses to meet our needs.

He asked scientists not to forget that cybernetics merely points to an analogy.

"The mechanistic viewpoint will eventually, if reluctantly, be discarded," Dr. Jefferson predicted. "Man is indeed master of himself and it is his brain which makes him so."

Mechanistic explanations of the brain and mind are as fallacious as the physical laws of two centuries ago that helped biological progress although they were proved false, Dr. A. D. Richie, professor of philosophy of Edinburgh University told the scientists. The riddle of mind and brain will be solved by metaphysical thought and not on a physical basis, although the mechanical concepts may be temporarily helpful.

The human brain is not sufficiently developed evolutionally to achieve a comprehension of the intricacy of its own mechanism, Dr. Alexander Kennedy, professor of psychology and medicine at Durham University said, although he did not agree with Dr. Ritchie.

Sinfulness may have a physical basis, Dr. Kennedy said, since moral awareness is dependent upon nervous mechanism. This is shown in the case of amoral behavior patterns following encephalitis or leucotomy, an operation in which the white matter of the frontal lobes of the brain is cut.

Moral awareness is thus shown to be not purely subjective in the mind but based on physical factors.

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PSYCHOLOGY

Disability No Joke To Man Who Has It

➤ DISABLED persons laugh at the same jokes as do normal persons—provided the joke is not about a physical handicap, Drs. Milton W. Horowitz and Leola S. Horowitz, of the University of Kansas, told the American Psychological Association in Denver, Colo.

Eight crippled individuals and 13 non-handicapped persons were asked to rate jokes for humor and for humiliation. Some of these jokes were about various handicaps and others were "innocuous." Neither

the crippled persons nor the normals found one type of joke more humiliating than the other, but both found a difference in their humor.

Both groups agreed pretty well in their ratings of the "innocuous" jokes, but significant differences were found in the handicap humor.

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MEDICINE

Daily Alcohol Drinking Is Damaging to Brain

➤ ALCOHOL, drunk every day in large quantities, causes permanent damage to the brain. This is revealed in mental tests and also in the brain waves, or electric impulses from the brain itself.

The tests, which were conducted on 51 alcoholics without mental disease, were reported to the American Psychological Association in Denver, Colo., by Dr. Lucille B. Kessler, of Traverse City, Mich., State Hospital.

Alcohol is a potent poison, Dr. Kessler told the meeting. When in contact with the nervous system it can produce sludging of the red blood cells. This is a condition in which the blood does not flow smoothly, but forms clumps of cell masses which



HELICOPTER GETS FLOATING FEET—Nylon floats have been attached to the wheels of this tandem rotored Piasecki HRP-1 "Rescuer" helicopter of the U. S. Coast Guard. It enables it to set down easily on the water for emergency rescues. It was designed by Cmdr. Frank A. Erickson, head of the Rotary Wing Development Unit at Elizabeth City, N. C. The pilot needs only pull a cord to release the floats. Insert photo shows how compactly the floats fold around the landing wheels.

move slower than normal, occasionally blocking the blood vessel. The result is an oxygen starvation of the tissues and possibly the brain.

In addition to its direct poisoning effect, alcoholism is accompanied by lack of vitamins B₁ and C which makes the tiny (capillary) blood vessels fragile and may cause hemorrhages in the space between the skull and the brain.

MEDICINE

Inducing German Measles

► A GROUP of women in Australia have volunteered to get German measles, and some of them got the disease, in the fight to protect babies of the future from being born with cataracts or deaf-mutism or heart defects through this disease.

The experiment, conducted by the Hall Institute at Melbourne, Australia, is called to the attention of American physicians by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Sept. 10).

German measles, medically known as rubella, is a harmless disease to the person having it. But when it attacks a woman during the first three months of pregnancy, it is likely to cause defects of eyes, ears or heart in the unborn baby. Australian doctors were first to notice this relationship. English and American physicians have since confirmed the findings.

Infecting girls and young women with the German measles germ before they married has been suggested as one way of preventing the disease's harmful effects on future babies.

This can be done, the Australian studies, reported by Dr. S. G. Anderson, show. Material washed from the throats of patients with German measles was put into the noses of the women volunteers. Within 13 to 20 days after, some of them developed the typical German measles rash. A few days before they had swollen glands, also typical of the disease. Other persons susceptible to the disease got it from contact with the volunteers who had the experimental disease.

More than half, 14 out of 25, volunteers did not get the disease. Five of these had had the disease six to nine years before, it was learned, and the other nine probably had had it in a mild form that escaped notice at the time. Dr. Anderson thinks this is strong circumstantial evidence that a person who has had the disease will be immune to it for at least nine years. Artificially inducing the disease in a woman at the age of 20 could therefore be expected to protect her against the disease over the period when she would probably be having children.

Application of these results, the JOURNAL points out, will have to take into consideration the existence of a considerable proportion of persons resistant to the disease

The brain damage showed up, Dr. Kessler reported, in impairment of the memory, thinking, and social judgment and, in the worst cases, in difficulty with arithmetic.

The electric rhythm of the brain itself is abnormally fast and there is an absence of the special brain wave pattern known as the alpha rhythm which is ordinarily characteristic of the brain at rest.

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who have no history of having had it and the dangers of transmitting other infections.

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MEDICINE

Supposed Breast Cancer Shows Up As "Bobby Pin"

► THE 38-year-old housewife, mother of three children, went to her doctor because of a lump in her breast. Her mother and father had both died of cancer. The doctor, after X-rays and other examination, diagnosed the lump as cancer and advised an operation.

On the operating table the surgeon made a cut below the nipple, started to remove a piece of tissue for microscopic examination, and found a "bobby pin."

Reviewing the X-ray picture of the chest, the "bobby pin" could be seen but had been thought to be on the patient's clothes.

The patient herself had no idea how the pin got into her breast but thought she must have rolled over on it while sound asleep.

"The case appears to be unique," observes Dr. Franklin G. Balch, Jr., of Brookline, Mass. He reports it in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Sept. 10), as "an unusual problem in the differential diagnosis of tumors of the breast."

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VETERINARY MEDICINE

Weight of Cattle Operates New Insecticide Duster

► THE weight of the animal itself produces the driving blast of air in an insecticide-dusting device for livestock on which Alfred Paul, Jr., Paul Spur, Ariz., received patent 2,480,601.

The cattle dusting takes place in a narrow chute through which the animals are driven. The insecticidal dust from nozzles in the side walls covers them completely. The necessary air blast to carry the dust is created by a bellows-like arrangement over which the animal must walk.

This is described as a depressible floor, over a small pit and mounted on coil

springs. The weight of the animal depresses the floor, compresses the air in the pit, and drives it out to the spray nozzles. By an ingenious arrangement, the proper amount of insecticide dust is added to the air.

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ICHTHYOLOGY

Echo Depth Finders Move In on Old Izaak Walton

► IZAAK WALTON would be astonished and dismayed to learn the latest techniques of catching fish proposed by fishery experts at Lake Success, N. Y.

The leisurely man with a long pole and the day to waste is giving way to impatient men with radar and no time to lose.

J. Renou of the French Navy's press information service told how radar and echo-ranging devices have been adapted to detecting fish and then identifying them.

He told the fishery section of the United Nations Scientific Conference on the Conservation and Utilization of Resources of an echo-ranging device that can detect any school of fish at distances varying from about 650 feet to more than a mile.

Study of the echo pattern enables the fisherman to tell what kind of fish they have located, he said.

Michael Graham, United Kingdom director of fisheries, cited similar work in England which has made it possible to identify herring, sardines and other fish at considerable distances.

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GENERAL SCIENCE

Modern Art Suffers from Our Treatment of Artists

► THE trouble with modern American art is the way we treat our artists and craftsmen, a scientist declared in New York.

Dr. Gene Weltfish, Columbia University anthropologist, explained to the Twentieth International Congress of Americanists that artists suffer from anxiety and insecurity. They have to worry about losing jobs. They are looked down on by some people.

Compare this, Dr. Weltfish suggested, with the life of the basket makers of the Pima Indians of our own Southwest or certain Amazon tribes in South America. These artists and craftsmen are not troubled by the threat of losing their jobs. They are not "pushed around."

They do not have to worry "where the next meal is coming from."

However primitive compared with our standards, these tribes have a better way of life for the artist and craftsman than our modern factory-filled civilization, the anthropologist contended.

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