

CHEMISTRY

New Role for Amino Acids

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► THE ESSENTIAL amino acids furnished by animal proteins such as meat, cheese and eggs have assumed a new role in nutrition as a result of studies by Dr. L. T. Samuels of the University of Utah.

Heretofore scientists have believed these amino acids were required and used by the body directly in production of its own protein tissue in flesh and blood. Dr. Samuel's studies suggest that some amino acids may be chiefly used by the pituitary gland, hazelnut-sized organ at the base of the brain.

This small but highly influential gland produces chemicals called hormones. Among them are one that influences growth, another that influences activity of the adrenal glands, and others that effect other glands such as the thyroid and sex glands.

Through its various hormones, this gland plays a role in the body's utilization of carbohydrate, fat and protein foods, Dr. Samuels reported at the third annual hormone conference at Mont Tremblant, Canada.

If an animal whose pituitary gland has been removed is fed the same diet that will keep a normal animal growing and healthy, the animal without the pituitary gland will also increase in weight but not as much as the normal one. Its weight increase, moreover, will be almost entirely in deposits of fat, rather than in formation of muscles and other tissues.

The picture is reversed if the animal is given both pituitary growth hormone and thyroid hormone. Then the animal gains weight more rapidly than the normal animal, but stores more water and protein and less fat.

Under these circumstances, the animal which increases most in weight is also the one which consumes the greatest amount of his food as energy. The reason for this, Dr. Samuels explained, is that the weight gain comes from stored water and low energy material, that is, protein.

From this and similar studies Dr. Samuels reasons that the value of protein to the animal will be affected by the pituitary gland if this gland affects pro-

tein storage. The biological value of protein will be much lower in an animal without its pituitary and particularly if the gland is failing to produce its growth hormone.

Starvation, other scientists have found, affects the pituitary gland very early. One of the first things that happens is a wasting of the sex glands, resulting from decreased production of the pituitary hormone affecting these structures. The wasting can be reversed even in a starving animal if pituitary gonadotropic hormone is given.

This effect of starvation on the pituitary gland is not a question of vitamin lack, Dr. Samuels stated. No one knows exactly what the factor responsible for it is. It may involve the amino acids. If so, the relative biologic value of a protein food may be determined not only by its general effect on body cells but by its ability to supply what the pituitary glands needs to produce its hormones.

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ENGINEERING

Long Distance 'Phone Calls May Be Automatic

► ALL LONG distance telephone operators will some day be dialing calls, directly and unassisted, straight through to the called telephone even though it be at the other side of the continent. This method, now in operation to a certain extent, is the announced objective of the American Telephone and Telegraph Company, according to a recent statement made by its president, Walter S. Gifford.

The ultimate aim, Mr. Gifford states, goes further, and will be reached when telephone subscribers can dial "anyone anywhere in the United States or perhaps anywhere in the world just as simply and promptly as you dial the telephone of a neighbor in your own home town." This long-range goal, he says, is "undoubtedly many years away from practical use."

The first plan is already in use. About 5% of the daily 2,700,000 toll board calls are now being handled by the operator toll dialing method. Under this method the customer dials the outward toll

operator, who in turn completes the call to the distant telephone through toll dial equipment, usually without the assistance of another operator.

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MEDICINE

Forensic Medicine Institute To Be Established

► AN INSTITUTE of Forensic Medicine, first of its kind in the world, will be established at New York University College of Medicine as part of its expanded postwar educational program.

The new institute will give instruction in legal medicine. It will be owned by New York City and operated in partnership with the university as a collaborative venture between it and the city's Medical Examiner's Office. Besides training medical examiners to replace old-style coroners in criminal investigation, the institute is expected to play a leading part in the exploration of medico-legal problems in America.

Medical needs of the middle-income group are emphasized in the designs for the university's new hospital and medical college buildings. Despite its name, New York University is privately supported and governed, receiving no city or state funds.

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MEDICAL CENTER — Architects' drawing of the proposed New York University-Bellevue Medical Center between 25th and 34th streets, First Avenue and East River Drive.