of fine non-medullated nerve fibers intermingled with numerous large ganglion cells. There are also large capsules filled with nerve cells. Some of these oval-shaped capsules send out quite large nerve tracts, others give off only fine nerve fibers. With the intravital method of staining, fine nerve plexuses can be seen all over surrounding muscle fibers.

According to these studies the lizard heart may serve as a typical instance of a purely neurogenic origin of the coördination of the heart beats.

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The influence of diet on the chemical composition of the body.[1]

By **LAFAYETTE B. MENDEL.**

[*From the Sheffield Laboratory of Physiological Chemistry, Yale University.*]

The investigation was an attempt to ascertain to what extent, if at all, the fundamental chemical structure of an organism can be altered by variations in diet or changed nutritive conditions. White mice were kept on dietaries of widely different character, *e. g.*, high protein, protein and fat, low protein and carbohydrate, etc., during considerable periods of time, and then killed and analyzed. The data are being published elsewhere. They are interpreted to indicate that although the fat and water content of such organisms show variations through a very wide range, there is a constant interdependence, even in cases of malnutrition. High content of fat is accompanied by lower water content, and *vice versa*. When the water content of the body is calculated on the basis of the fat-free tissue, the range of variation is remarkably small (70 to 74 per cent. of water). In order to afford some direct basis for a comparison of the tissue substance aside from its water and fat and the inorganic skeletal structure, the nitrogen content of the entire animals was calculated on a water-, fat- and ash-free basis. With few exceptions the animals afforded figures within narrow range above or below 16 per cent. of nitrogen. The constancy of composition of the organism suggests that it is

[1] This research was conducted with the aid of a grant from the Carnegie Institution of Washington.

not possible ordinarily to upset the relative composition of the body by dietetic measures, aside from altering the fat and glycogen content. Normal growth proceeds only through assimilation of all the essential body constituents in the proportion in which they are normally found in the body; and in tissue disintegration the loss is likewise general, not restricted to individual components of the fundamental structure.

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The chemical composition of nonstriated mammalian muscle.

By **LAFAYETTE B. MENDEL** and **TADASU SAIKI.**

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In view of the paucity of data on the chemical composition of nonstriated muscle, Dr. Saiki has made an extensive study of the urinary bladder and muscular coat of the stomach of the pig. The details will be published in the *Journal of Biological Chemistry.* The preparations studied contained a considerably larger proportion of connective tissue (and presumably lymph spaces) than the corresponding skeletal muscles. This factor, involving the possible contamination with tissue lymph, must be taken into consideration in an interpretation of the analytical data. Hypoxanthin is the predominant purin base present. Creatin and paralactic acid can also be isolated. There is little, if any, glycogen in the nonstriated muscles examined; but the tissues possess the property of transforming glycogen in the characteristic enzymatic way. The most interesting contribution is a rather complete analysis of the inorganic constituents indicating a difference in their relative distribution in comparison with skeletal muscle, which can be accounted for in part only by an admixture of lymph.

COMPARATIVE COMPOSITION OF PIG'S MUSCLE AND BLOOD SERUM.

	K_2O	Na_2O	Fe_2O_3	CaO	MgO	Cl	P_2O_5	H_2O
Nonstriated muscle.....	0.081	0.328	0.011	0.044	0.007	0.171	0.184	80.6
Skeletal muscle (Katz)..	0.306	0.210	0.008	0.011	0.047	0.048	0.487	72.9
Blood serum (Abderhalden).....	0.027	0.425	—	0.012	0.004	0.363	0.020	91.8