TABLE I.
Mg. Glucose Absorbed Hourly per 100 gm. Body Weight.

	Controls	Test Rats Injected with Pituitary
	190	140
	222	169
	200	94
	262	143
	192	135
	195	91
	184	96
Average	206	125

TABLE II—IODIDE ABSORPTION.
Mg. Potassium Iodide Absorbed Hourly per 100 gm. Body Weight.

	Controls	Test Rats Injected with Pituitary
	86	60
	102	30
	110	43
	127	37
	98	80
	96	76
Average	103	54

Conclusions: Subcutaneous injections of *Liquor Pituitarii* in the white rat decreased the rate of absorption of glucose and of iodide from the gastrointestinal tract.

4823

The Effects of Low Glycogen Content Upon the Contraction Process in Isolated Skeletal Muscle.

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A large series of observations has been made to check the findings of Olmsted and Coulthard,[1] who report that gastrocnemius muscles in which little or no glycogen can be detected, taken from frogs rendered glycogen poor by means of insulin convulsions, contract upon electrical stimulation, and produce fatigue curves closely resembling the normal. They also report the increase in lactic acid content in such muscles upon fatiguing to be greater than can be accounted for by the disappearance of carbohydrate.

[1] Olmsted, J. M. D., and Coulthard, H. S., *Am. J. Phys.*, 1928, lxxxiv, 610.

Analyses of the muscles of 40 normal and insulinized frogs have been made (both bull frogs and grass frogs were used). The corresponding muscles of opposite limbs were used in the determination of resting and fatigue levels. The muscles were frozen in liquid air previous to preparation for analysis. The Pflüger method, modi-

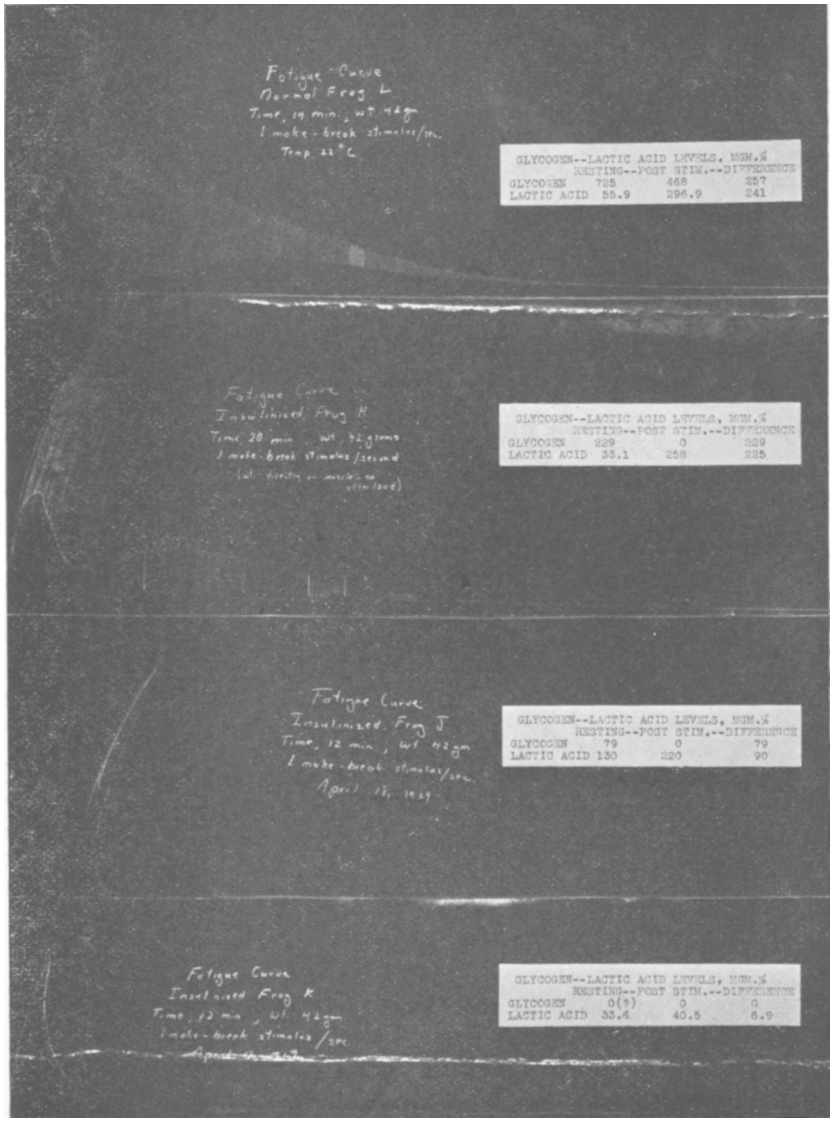

FIG. 1.
Fatigue curves, normal and insulinized frogs.

fied as suggested by Evans[2] was used in the determination of glycogen. The Friedeman, Cotonio, and Shaffer[3] method was used in the determination of lactic acid.

We have not been able to duplicate the findings of Olmsted and Coulthard. The area of the fatigue curve, at constant kymograph speed, seems to bear a direct relationship to the lactic acid produced regardless of the influence of insulin (see Fig. 1). Also, the disappearance of glycogen is closely balanced by the increase in lactic acid. In a number of cases no glycogen could be detected in the resting muscle.

In each of these cases the increase in lactic acid was sufficiently slight to have come from a resting level of glycogen below the threshold of the method used in its determination.

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Source of the Pigmentary Hormone of Amphibian Hypophysis.

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There has been some confusion as to the rôle of the different lobes of the hypophysis in the secretion of the hormone that causes the well known pigmentary effects in tadpoles consisting of a darkening in the presence of an excess of the hormone and the assumption of a very pale color in its absence. The various methods of experimentation have been largely responsible for this diversity of view. P. E. and I. B. Smith[1] caused these pigment changes by making repeated intraperitoneal injections of saline extracts of crushed beef glands, securing positive results with *pars anterior, pars nervosa* and *pars intermedia,* the last named being the most pronounced. This method would not preclude the possibility of the fainter color changes caused by *pars anterior* and *pars nervosa* material being due to the presence of secretion diffused from the *pars intermedia.*

In the work of the writer[2] for several years the method of transplantation has been used. Care is taken to use only unmixed material

[2] Evans, J. L., *Physiol. Rev.*, 1926, vi, 367.

[3] Friedeman, T. E., Cotonio, M., and Shaffer, P. A., *J. Biol. Chem.*, 1927, lxxiii, 335.

[1] Smith, P. E. and I. B., *Endocrinol.*, 1923, vii, 579.

[2] Allen, B. M., *Science*, N. S., 1920, lii, 274-276.